SDMS US EPA REGION V

COLOR - RESOLUTION - 3

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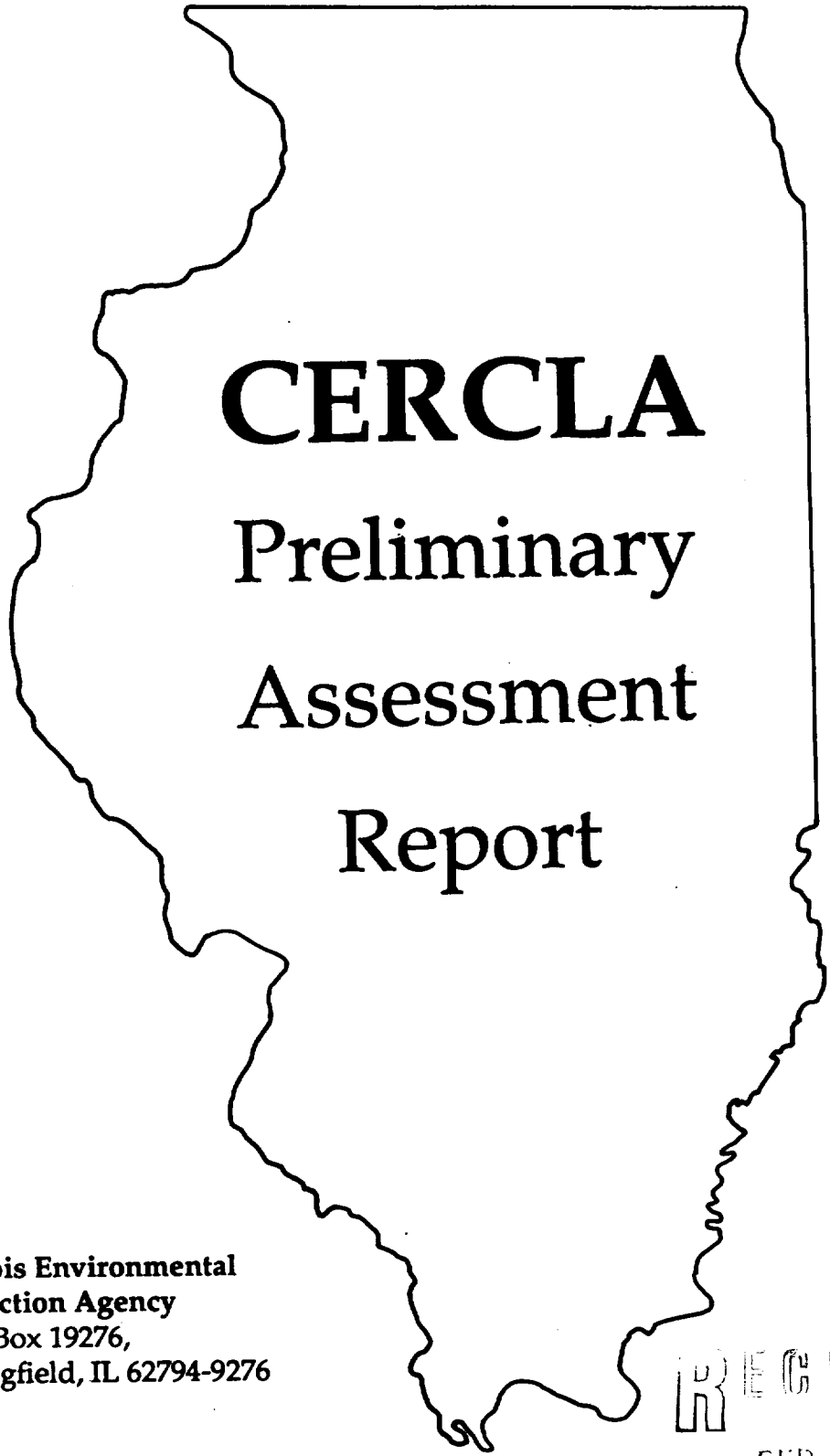
SITE NAME	MATTHIESEN & HEGELER (CARUS CHEMICAL)
DOC ID #	163444
DOCUMENT VARIATION	X COLOR OR X RESOLUTION
PRP	RMD - MATTHIESEN & HEGELER
PHASE	SAS
OPERABLE UNITS	
PHASE (AR DOCUMENTS ONLY)	___ Remedial ___ Removal ___ Deletion Docket ___ ___ Original ___ Update # ___ Volume ___ of ___

COMMENT(S)

SITE MAPS ; SITE COLORED PHOTOGRAPHS

ALSO INCLUDES OVERSIZED MAPS (PARTIALLY SCANNED)

L0998160003-LaSalle Co.
Carus Chemical company
ILD 005477666
SF/HRS



CERCLA

Preliminary Assessment Report

Illinois Environmental Protection Agency
P.O. Box 19276,
Springfield, IL 62794-9276

Executive Summary

The Carus Chemical Co. was placed on CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) in August, 1990 as a result of a request by the Environmental Protection Agency of the State of Illinois. This action was taken as a result of previously documented waste disposal practices of the facility and the many years of operations at the same location.

Carus Chemical Co. is an active facility located at 1500 Eighth Street, LaSalle, Illinois. The site is legally described as being located in the East Half of the Northwest Quarter of Section 14, Township 33 North, Range 1 East of the Third Principal Meridian in LaSalle County, Illinois. The site is bordered by LaSalle Rolling Mills and Zinco on the north, the Little Vermilion River on the east, Sterling Street on the west and Seventh Street on the South.

Carus Chemical Co. was founded in 1912 and began operations at the present location in 1915. Prior to 1915 the land was agricultural. The facility currently has 105 employees and the plant is in operation 7 days a week on a 24 hour basis. The company is involved in the manufacture of potassium permanganate (Carox) and specialty products such as sodium permanganate; Denox (a proprietary chemical); PPC 2, 3, pyridinedicarboxylic acid; Carusorb (a potassium permanganate based catalyst); and chlorides, nitrates and carbonates of cesium. Raw materials that are used at the plant include copper sulfate; sulfuric, nitric and

hydrochloric acids; sodium hydroxide; cesium bearing ore; manganese dioxide; ethylene glycol; sodium carbonate; sodium bicarbonate; aluminum oxide and flocculation polymers.

Currently raw materials at the site are received in bulk quantities and are stored indoors. Finished product is stored in warehouses protected from the weather. The facility obtains all of its water from the city of LaSalle and the sanitary and wastewater streams are handled separately. Sanitary wastes from the office, laboratory, locker facilities and specialty products process water is disposed of by the city of LaSalle sewer system. Approximately 50,000 to 60,000 gallons per day are discharged into the LaSalle Sanitary Sewer System. Storm water run-off is collected in storage areas 1 and 2 (refer to site map and aerial photo), which are of sufficient volume to provide storage for a 5 inch rain (10 year, 24 hour storm event).

Wastewaters from the manufacture of potassium permanganate are eventually discharged into the Little Vermilion River. This wastewater is generated from periodic boiler blowdowns, compressor coolings, rainfall run-off, pumping of the accumulated stormwater and equipment wash water. Wastewater quantity generated is typically 950,000 gallons per day. Before any wastewater enters the Little Vermilion River it first passes through a monitoring building where the ph and absorbance are checked to ensure that the water does not contain excess turbidity or permanganate. From the monitoring station the water is discharged into the

north end of the south settling and treatment pond, which has a surface area of approximately four acres. The water travels to the southeast portion of this pond and enters an overflow box where it then travels via a pipe into the Little River east of the monitoring building.

Solid wastes from the manufacturing activities are disposed of on a regular basis. They are transported in large capacity dumpsters to a specialized Carus-owned landfill which is used only for Carus products. This has been the practice since the early 1970's when wastes were first disposed of at Carus No. 1, located approximately 3 miles west of Ottawa, Illinois. This site was used until 1986 and was replaced by Carus No. 2, located approximately 1 mile east of Carus No. 1.

Public and private drinking water supplies within a four mile radius of Carus Chemical Co. are supplied from groundwater. The geology of the area consists of Wisconsin glacial till overlying the bedrock. The bedrock consists of fractured Silurian and Ordovician-aged dolomites and the St. Peter sandstone. The nearest documented well from the site is .7 mile south and is one of a cluster of four wells used to supply the city of LaSalle. These wells are from 60 to 70 feet deep and draw from the sand and gravel aquifer. The city of Peru, located adjacent to LaSalle on the west, draws its water from the St. Peter sandstone at depths from 2,591 to 2,764 feet. The approximate population that uses groundwater derived from aquifers in the area around Carus

Chemical Co. is:

Distance (miles)	Population
0 to 1/4	0
>1/4 to 1/2	0
>1/2 to 1	9,467
>1 to 2	132
>2 to 3	11,208
>3 to 4	5,240

Illinois Environmental Protection Agency records do not document the existance of any surface water drinking intakes along the 15-mile surface water route downwstream of the site. Almost all drainage from the site flows east and enters the Little Vermilion River. The water then flows south for three quarters of a mile and enters the Illinois River. The water flows in a westerly direction along the remaining 14.25 miles of the surface water pathway. Illinois Department of Conservation records indicate that the nearest State sensitive environment is the DePue Lake Conservation Area, located approximately 13 miles downstream from the site. There are approximately 13.4 miles of total wetland frontage along the 15-mile surface water route.

Land use around Carus Chemical Company is industrial to the north, residential to the west and south, and sparsely populated to the east, with the site being located along the center of the eastern edge of LaSalle. The nearest school is Saint Roch School, located 2,500 feet southwest of the site.

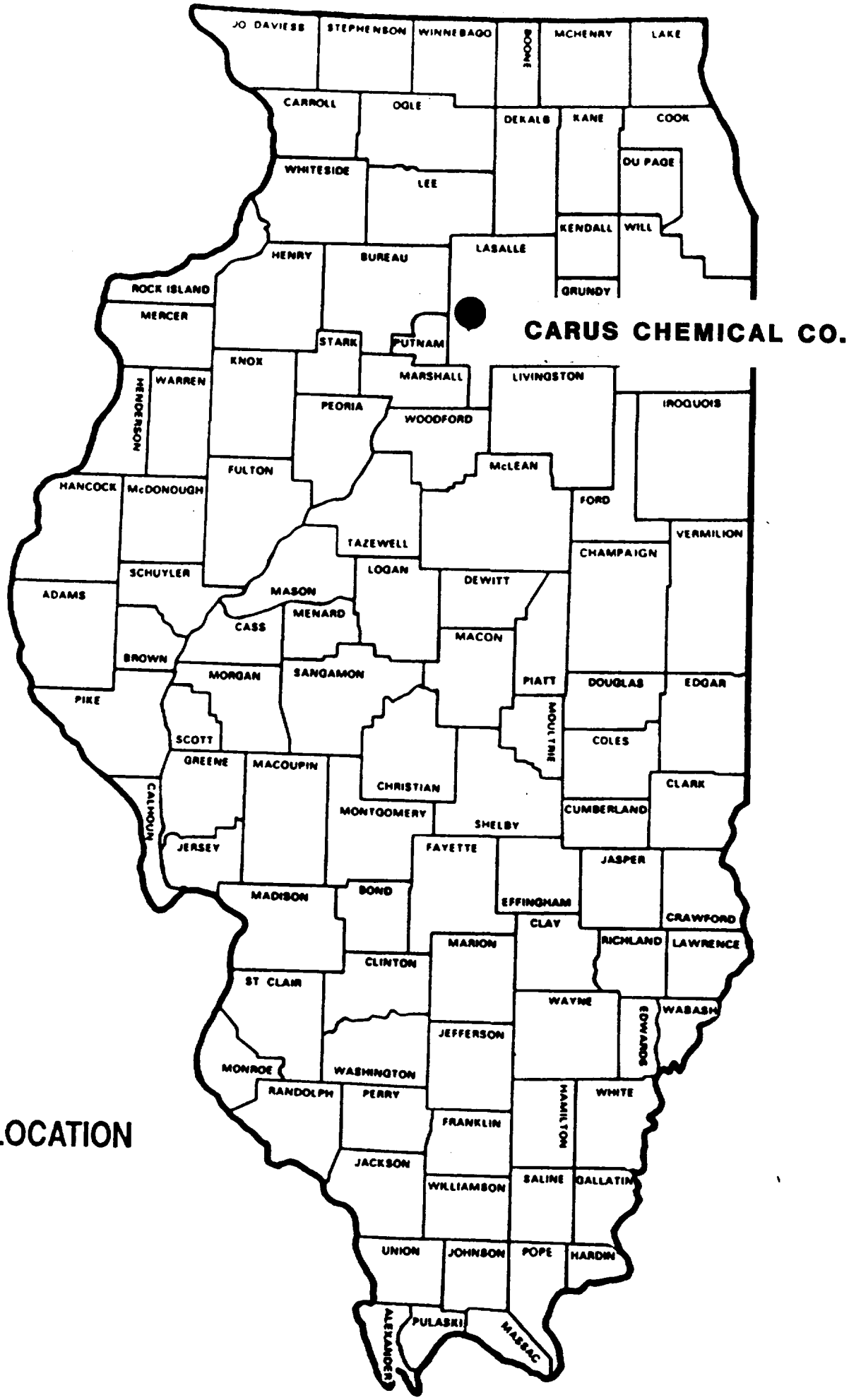
No federal or state endangered species are known to exist within a four mile radius of the site, however sensitive environments within one-half mile of the site consists of approximately 14 acres of wetlands. The total population within a four mile radius of the site is:

on-site	105
0 to 1/4 mile	1,035
>1/4 to 1/2 mile	2,069
>1/2 to 1 mile	6,229
>1 to 2 miles	6,965
>2 to 3 miles	8,212
>3 to 4 miles	3,099

There has not been any documented air contamination attributable to the Carus Chemical Company site and the plant is required to meet air quality standards as set forth in the various air permits issued to them by the Illinois Environmental Protection Agency. No human health problems have been documented at this facility due to direct exposure to hazardous substances, and this potential is minimized due to access to the site being restricted by fences, guards, 24 hour a day worker presence and natural barriers along the eastern portion of the facility.

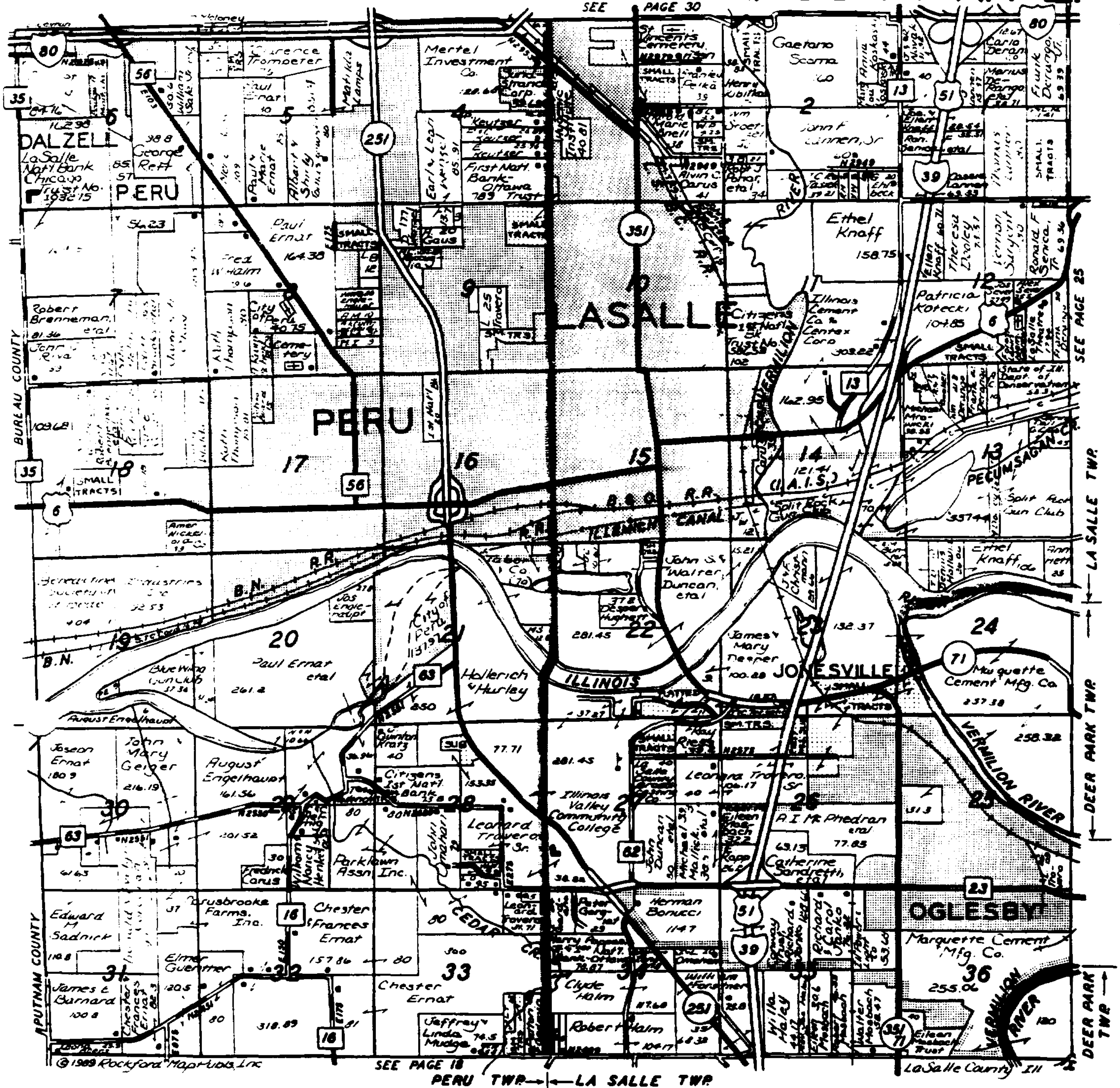
Inspections conducted to date by various regulating bodies have not documented any practices conducted at the facility that have had any adverse effects on the environment. Furthermore, the potential for detrimental

environmental impacts have been lessened by the safety precautions taken at the facility to prevent releases and to contain them should they occur. Given the afore mentioned site conditions, the author assigns a ~~low~~ medium priority status to this facility and recommends that the United States Environmental Protection Agency schedule a CERCLA Screening Site Inspection as time allows.

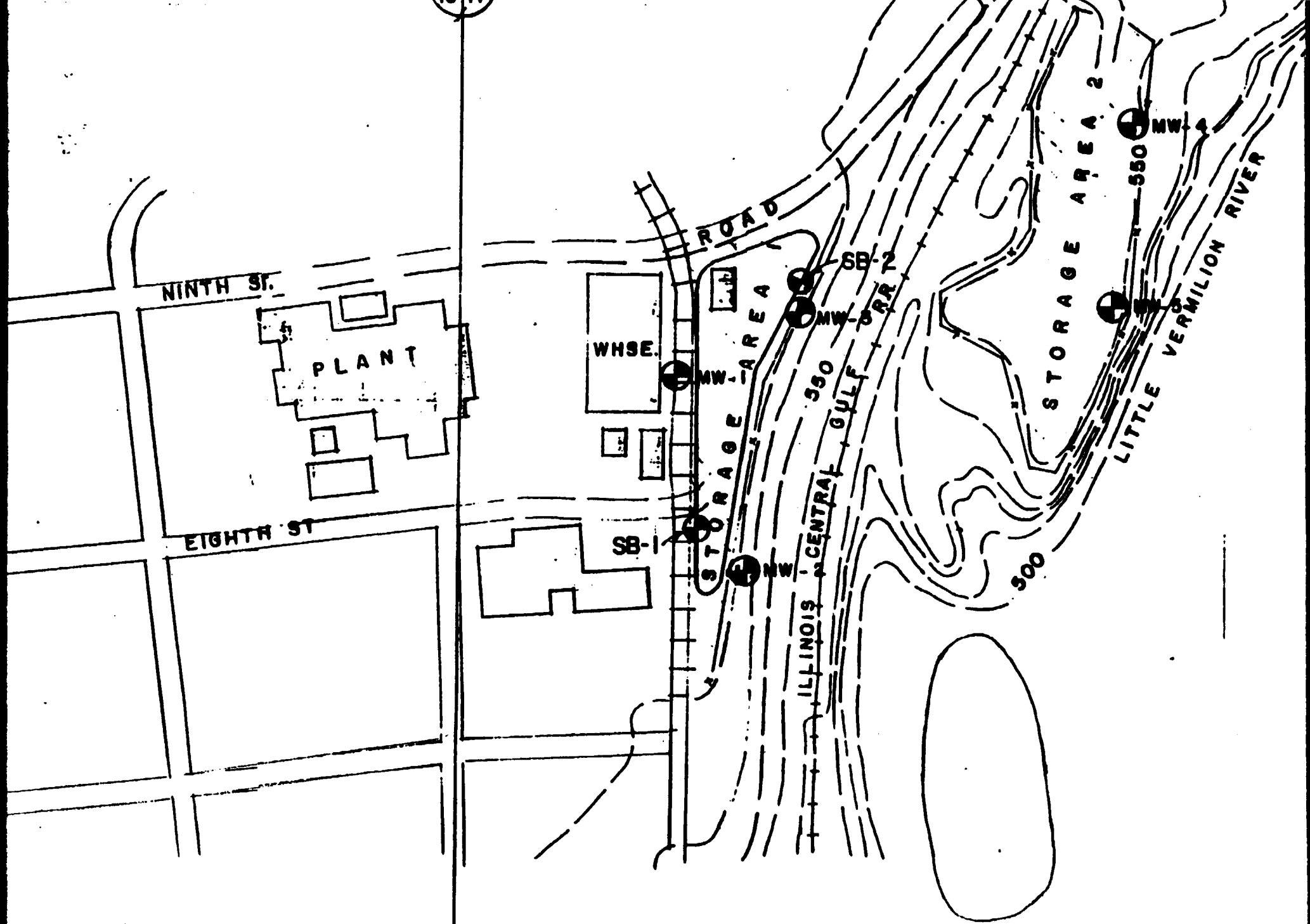


SITE LOCATION

PERU WEST PART LA SALLE NORTHWEST PART DEER PARK T. 33 N.-R. 1 E.



PLAT MAP



SITE PLAN

SCALE: 1 inch equal 200 feet


LASALLE ROLLING MILLS
RETENTION POND (STORAGE AREA 1)
RETENTION POND (STORAGE AREA 2)
WATER MONITORING STATION
EIGHTH STREET
STERLING STREET
LITTLE VERMILION RIVER
SOUTH SETTLING AND TREATMENT POND
CARUS CHEMICAL COMPANY
AERIAL PHOTO
SCALE: 1 inch equals 200 feet

DATE: MAY 22, 1991

TIME: 10:10 AM

PHOTOGRAPH TAKEN BY:

ROBERT CASPER

PHOTO NUMBER: 1, 2

LOCATION: L 099 8160003 - LASALLE

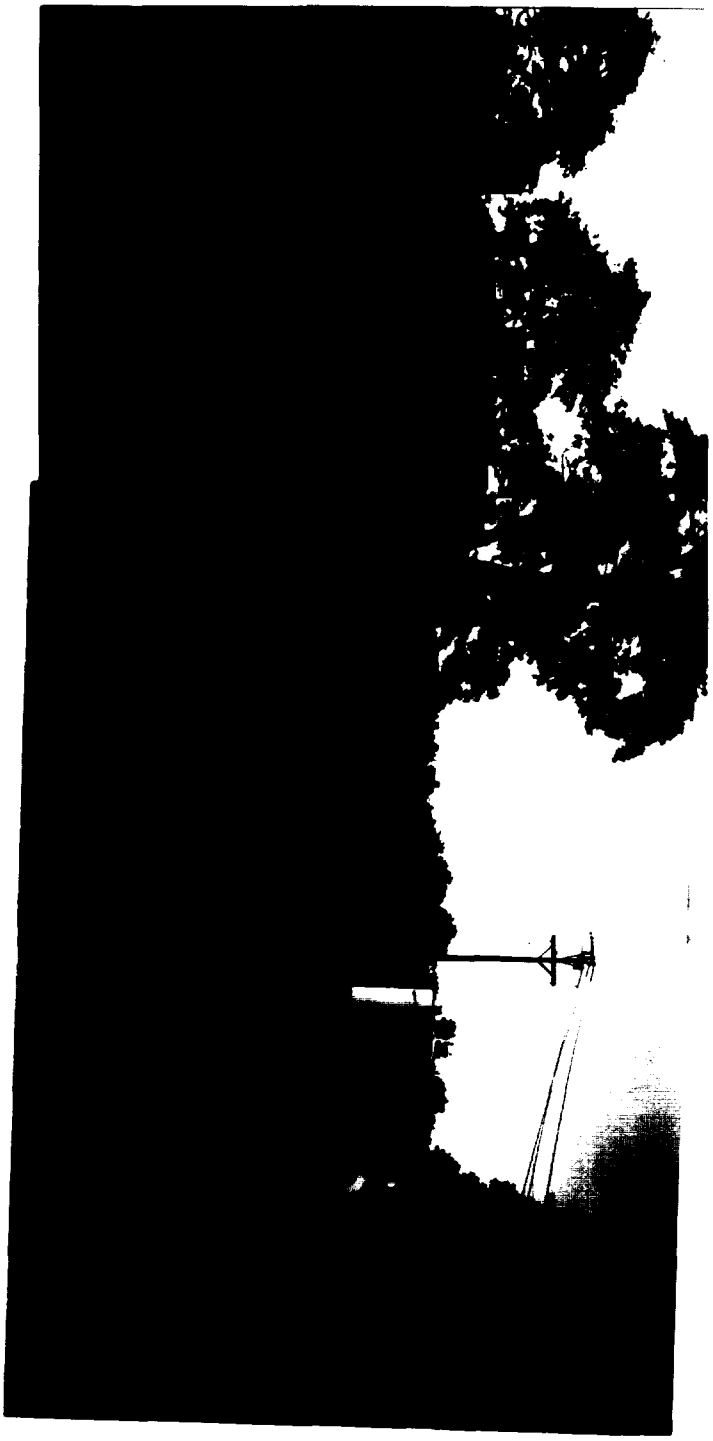
CARUS CHEMICAL CO.

ILD 005 477 666

COMMENTS: PICTURE TAKEN TOWARD

SOUTHEAST AND SOUTH

ALONG STERLING STREET.



DATE: _____

TIME: _____

PHOTOGRAPH TAKEN BY:

_____

PHOTO NUMBER: _____

LOCATION: _____

_____

_____

COMMENTS: PICTURE TAKEN TOWARD

_____

_____

_____

_____

DATE: MAY 22, 1991

TIME: 10:13 AM

PHOTOGRAPH TAKEN BY:

ROBERT CASPER

PHOTO NUMBER: 3, 4

LOCATION: L0798160003-LA SALLE

CARUS CHEMICAL Co

ILD 005477666

COMMENTS: PICTURE TAKEN TOWARD

EAST. CARUS CHEMICAL IS

ON THE RIGHT SIDE OF THE

STREET AND LA SALLE

ROLLING MILLS ON THE LEFT.

DATE: _____

TIME: _____

PHOTOGRAPH TAKEN BY:

_____

PHOTO NUMBER: _____

LOCATION: _____

_____

_____

COMMENTS: PICTURE TAKEN TOWARD

_____

_____

_____

_____

DATE: MAY 22, 1991

TIME: 10:13 AM

PHOTOGRAPH TAKEN BY:

ROBERT CASPER

PHOTO NUMBER: 5

LOCATION: L099816000 3- LASALLE

CARUS CHEMICAL CO.

ILD 005 477 666

COMMENTS: PICTURE TAKEN TOWARD

SOUTHEAST FROM ACROSS

STERLING STREET. PHOTO

OF THE NORTHWEST CORNER

OF THE FACILITY

DATE: MAY 22, 1991

TIME:

PHOTOGRAPH TAKEN BY:

ROBERT CASPER

PHOTO NUMBER: 6

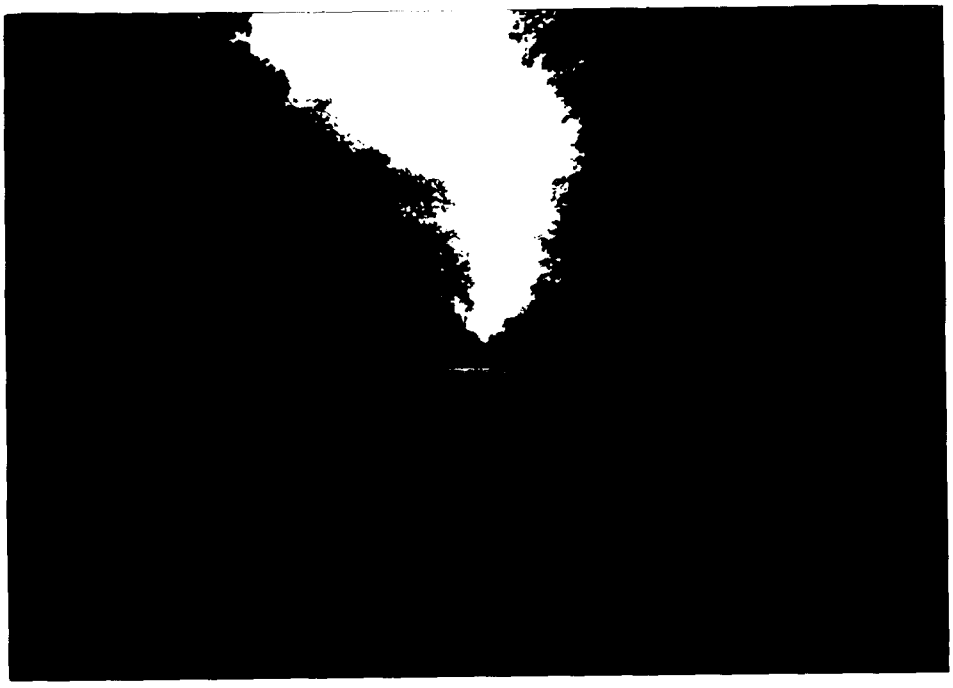
LOCATION: L099816000 3-LASALLE

CARUS CHEMICAL CO

ILD 005 477 666

COMMENTS: PICTURE TAKEN TOWARD

EAST ON SEVENTH STREET.



DATE: MAY 22, 1991

TIME: 10:40 AM

PHOTOGRAPH TAKEN BY:

ROBERT CASPER

PHOTO NUMBER: 7, 8

LOCATION: L0998160003-LASALLE

CARUS CHEMICAL CO.

ILD 005 477 666

COMMENTS: PICTURE TAKEN TOWARD

NORTH AND NORTHEAST.

ENTRANCE TO SITE IS

BY STOP SIGN AT LEFT. PHOTOS

TAKEN AT SOUTHWEST CORNER OF

STERLING AND SEVENTH STREET.

DATE: _____

TIME: _____

PHOTOGRAPH TAKEN BY:

_____

PHOTO NUMBER: _____

LOCATION: _____

_____

_____

COMMENTS: PICTURE TAKEN TOWARD

_____

_____

_____

_____

DATE: MAY 22, 1991

TIME: 11:20 AM

PHOTOGRAPH TAKEN BY:

ROBERT CASPER

PHOTO NUMBER: 9, 10

LOCATION: L0998160003-LASALLE

CARUS CHEMICAL CO.

ILD 005 477 666

COMMENTS: PICTURE TAKEN TOWARD NORTH AND NORTHEAST. PHOTOS OF RETENTION POND BUILT TO CATCH ANY RUN-OFF THAT MAY RESULT FROM UNUSUALLY HEAVY PRECIPITATION.

DATE: _____

TIME: _____

PHOTOGRAPH TAKEN BY:

_____

PHOTO NUMBER: _____

LOCATION: _____

_____

_____

COMMENTS: PICTURE TAKEN TOWARD

_____

_____

_____

_ _____

DATE: MAY 22, 1991

TIME: 11:25 AM

PHOTOGRAPH TAKEN BY:

ROBERT CASPER

PHOTO NUMBER: 11

LOCATION: L099816O003-LASALLE

CARUS CHEMICAL CO.

ILD 005 477 666

COMMENTS: PICTURE TAKEN TOWARD

EAST. SHED CONTAINS

MONITORING EQUIPMENT

WHICH CHECKS WATER QUALITY

OF EFFLUENT PUMPED TO POND

NEAR THE LITTLE VERMILLION RIVER

DATE: MAY 22, 1991

TIME: 11:28 AM

PHOTOGRAPH TAKEN BY:

ROBERT CASPER

PHOTO NUMBER: 12

LOCATION: L099816O003-LASALLE

CARUS CHEMICAL CO.

ILD 005 477 666

COMMENTS: PICTURE TAKEN TOWARD

EAST FROM OTHER SIDE OF THE

MONITORING SHED. TERRAIN

DROPS SHARPLY TOWARD THE

VER.

DATE: MAY 22, 1991

TIME: 11:30 AM

PHOTOGRAPH TAKEN BY:

ROBERT CASPER

PHOTO NUMBER: 13, 14

LOCATION: LO99916O003 - LASALLE

CARUS CHEMICAL CO.

ILD 005 477 666

COMMENTS: PICTURE TAKEN TOWARD

NORTH. PHOTO OF POND WHICH

IS STORAGE AREA 2

LOCATED BELOW THE

MONITORING STATION.

DATE: _____

TIME: _____

PHOTOGRAPH TAKEN BY:

_____

PHOTO NUMBER: _____

LOCATION: _____

_____

_____

COMMENTS: PICTURE TAKEN TOWARD

_____

_____

_____

_____

DATE: MAY 22, 1991

TIME: 11:35 AM

PHOTOGRAPH TAKEN BY:

ROBERT CASPER

PHOTO NUMBER: 15

LOCATION: L099816000 3 - LASALLE

CARUS CHEMICAL CO.

ILD 005 477 666

COMMENTS: PICTURE TAKEN TOWARD

SOUTH. PHOTO OF WHERE

WATER ENTERS POND.

DATE: MAY 22, 1991

TIME: 11:40 AM

PHOTOGRAPH TAKEN BY:

ROBERT CASPER

PHOTO NUMBER: 16

LOCATION: L099816000 3 - LASALLE

CARUS CHEMICAL CO.

ILD 005 477 666

COMMENTS: PICTURE TAKEN TOWARD

WEST. WATER FROM THE

POND ENTERS OVER FLOW

AND TRAVELS THROUGH A

PE INTO THE RIVER.

DATE: MAY 22, 1991

TIME: 11:45 AM

PHOTOGRAPH TAKEN BY:

ROBERT CASPER

PHOTO NUMBER: 17

LOCATION: L099816O003 - LASALLE

CARUS CHEMICAL CO.

ILD 005 477 666

COMMENTS: PICTURE TAKEN TOWARD

EAST. LITTLE VERMILLION

RIVER IS LOCATED EAST

OF THE POND. THE TERRAIN

DROPS SHARPLY TO THE RIVER.

DATE: _____

TIME: _____

PHOTOGRAPH TAKEN BY:

_____

PHOTO NUMBER: _____

LOCATION: _____

_____

_____

COMMENTS: PICTURE TAKEN TOWARD

_____

_____

_____

_____

REFERENCE NUMBER 07

EPA

United States Environmental Protection Agency
Washington, D.C. 20460

NPDES Compliance Inspection Report

Form Approved
OMB No. 2040-0003
Approval Expires 7-31-85

Section A: National Data System Coding

Transaction Code	NPDES	yr/mo/day	Inspection Type	Inspector	Fac Type
1 N 2 5	3 I L 0 0 0 2 6 2 3 11	12 9 0 0 5 2 3 17	18 C	19 S	20 2

Remarks

21 M A J O R I N D U S T R Y - I N O R G A N I C C H E M I C A L S M F G . 66

Reserved	Facility Evaluation Rating	BI	QA	Reserved	
67 69	70	71	72	73 74	75 80

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time ☐ AM ☐ PM	Permit Effective Date
Carus Chemical Company 1500 Eighth Street LaSalle, IL. 61301 LaSalle County	Exit Time/Date	August 9, 1986 Permit Expiration Date May 1, 1991

Name(s) of On-Site Representative(s)	Title(s)	Phone No(s)
Jack Doyle Horst Adolph	Analytical Laboratory Supervisor Manager, Government Relations	815/223-1502

Name, Address of Responsible Official	Title	
M. Blouke Carus	President	
	Phone No. 815/223-1500	Contacted ☐ Yes ☒ No

Section C: Areas Evaluated During Inspection

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	Permit	M	Flow Measurement		Pretreatment	S	Operations & Maintenance
S	Records/Reports	S	Laboratory	S	Compliance Schedules	S	Sludge Disposal
S	Facility Site Review	S	Effluent/Receiving Waters		Self-Monitoring Program		Other:

Section D: Summary of Findings/Comments (Attach additional sheets if necessary)

No substantive violations were detected.
BMP compliance construction project has been completed and in operation for over 2 years without having had to use it.
FE flow measurements are still calculated and not considered truly accurate.
See attached report.

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Telephone	Date
Charles Corley	IEPA/ROCKFORD/815-987-7760	May 23, 1990

Signature of Reviewer	Agency/Office	Date
	IEPA/ROCKFORD/815-987-7760	8/20/90

Regulatory Office Use Only

Action Taken	Date	Compliance Status
		☐ Noncompliance ☐ Compliance

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY MEMORANDUM

DATE: May 23, 1990

TO: DWPC/FOS & RECORDS UNIT

FROM: Charles E. Corley - Region 1

SUBJECT: Carus Chemical Compliance Evaluation Report
NPDES Permit #IL00026213

Interviewed Jack Doyle

A visit was made to Carus Chemical Company to observe the current operating conditions and to evaluate compliance with the NPDES permit. The day of the visit was mostly cloudy with temperatures reaching 64° F. The following is a report based in information contained in the Agency files and from the visit.

INTRODUCTION

Carus Chemical Company is a manufacturer of potassium permanganate (KMnO4) and employs approximately 120 people at this facility. There are 16 people in the potassium permanganate production section of the plant and 25 people employed at the Speciality Products plant south of the KMnO4 production area. Both production facilities operate seven days a week, 24 hours per day. The Carox plant operates 8 hour shifts. Speciality Products, however, operates 12 hour shifts.

The products manufactured at this site consist of Sodium Permanganate (NaMnO4); Denox a properiateriay chemical; PDC, 2, 3-pyridinedicarboxylic acid; Carusorb, KMnO4 based catalyst; Carulite, manganese based catalyst; potassium permanganate, KMnO4; Cesium compounds with Cl-, NO_3- and CO_3.

SUMMARY

During the past calendar year Carus Chemical Company has had no apparent excursions of their NPDES permit as reported on the monthly discharge monitoring reports. There have been few Agency samples and none of these have indicated effluent excursions from outfall 001.

There are however detailed investigations occurring relative to the character and effect of the pre-treatment waste discharged to the City of LaSalle sewer system. The inquiry concerns the waste products of the manufacturing of PDC from the Specialty Products group.

FACILITIES EVALUATION

All the major wastewater streams are separated at Carus Chemical. The Speciality Products group sanitary and process waste from the south side of the grounds is separate and diverted to the City of LaSalle sewer system. Sanitary waste from Carox manufacturing area goes to the City of LaSalle sewer system. All storm water from the plant property is directed to the upper lagoon adajacent to the manufacturing process and then to the south lagoon. The processed wastewaters generated in the Carox manufacturing area are separate and are discharged to the south lagoon.

During the visit, the upper lagoon containing storm water was almost completely empty. The new lagoon built in compliance with the Best Management Practice (BMP) pollution control requirements in Section 307(a)(1) and 311 of the Clean Water Act was empty. This lagoon is intended to receive the potentially pollutional runoff from the plant property and manufacturing areas should there be castrophic events such as storm, fire or explosion.

The lower lagoon is a single cell treatment system which receives the process wastewater and incidental cooling and boiler blowdown water from the Carox manufacturing process. This lagoon discharges directly to the Little Vermillion River. During the visit the content was clear and the effluent was slightly brown in coloration but clear and free from debris and settleable solids. Along the edge of the lagoon there were occasionally schools of minnows which attest to the quality of the water contained in it.

RECORDS AND REPORTS

Laboratory personnel standarize the automatic monitoring equipment for the wastewater prior to discharge to the south lagoon. This is done on a daily basis and the dates and times of the calibrations are indicated on the chart recorder. An effluent sample is collected but is unrefrigerated. There is an inline pH meter and Brinkman Spectrophotometer which monitors the 525 nanometer wavelength. Percent transmittence is recorded by this meter and an alarm is sounded when transmittence drop below 85%. The process supervisor or foreman is responsible for alarm responses. There is an audio visual alarm which sounds during each alarm event.

Laboratory analyses are performed by Carus Chemical's main laboratory personnel. All equipment, maintenance and standardization is likewise done by the main laboratory personnel. Sample collection is the responsibility of the operation department. Laboratory data is recorded on forms separate and distinct from other analytical records. The monthly data for DMR preparation is submitted to Jim Miller, the plant engineer. He in turn compiles the data, summarizes it and forwards it on the monthly Discharge Monitoring Report to EPA.

ATTACHMENTS

Samples were not collected during this visit therefore there are no analytical results to attach. There are attached to this report a copy of the skematic of the water flow of Carus Chemical Company. In addition there is a map locating Carus Chemical Company and the outfall sample points along the Little Vermillion River in LaSalle. Also attached are tabulations of the DMR's and EPA effluent samples. Lab data report and records sheets used by Carus are also attached.

CEC:bp
cc: DWPC/CAS
DWPC/Rockford

O/F 001

PARAMETER MONITORING REQ'MNTS INF. EFF.	PERMIT CONDITIONS F OR I / DATE REC'D	1	2	3	4	5	6	7	8	9	10	11	12
FLOW mgd daily calc	Avg	1.402	1.384	1.370	1.390	1.398	1.265						
	Max	1.705	1.468	1.454	1.487	1.491	1.357						
pH 1/wk G units	6 Min	7.83	8.0	7.9	7.92	7.75	7.83						
	9 Max	8.20	8.23	8.14	8.09	8.11	8.09						
TSS 1/m mg/1 C	Av	.80		2.6									
	5 Mx	.80	3.4	2.6	1.8	3	4.2						
TSS #/day	[illegible] Av	9.37		29.71	20.9	35	44.4						
	162.3 Mx	11.41	39.3	31.53	22.3	37.3	47.63						
AMM-N 1/m mg/1 C	4.0 Av[1]	1.28		1.62									
	1.5 Mx[2]	1.28	1.72	1.62	.10	1.09	.81						
Mn 1/w mg/1 C	Av	.57	.52	.35	.295	.26	.47						
	1.0 Mx	.74	.60	.48	.32	.33	.90						
Mn #/day	7.0 Av	6.67	6.01	3.99	3.42	3.04	4.96						
	10.8 Mx	8.66	6.71	5.82	3.97	3.86	9.85						
TEMP. °F 1/w	Av	10.3	10.3	13.2	16.5	18.8	22.8						
	Mx	12	13	18	24	21	24						
O&G mg/1	15 Av		1.56	1.67			8.4						
	30 Mx	16.71	2.27	1.67	.47	1.67	8.4						
O&G #/day	135.6 Av		18	19.1	5.45	19.5	88.7						
	324.5 Mx	238.3	26.1	20.3	5.83	20.79	95.2						
Flow mgd when disch	A	0	0	0	0	.062	.036						
	M					.104	.042						
Manganese mg/l daily comp	A					.47	.34						
	2.0 Mx					.66	.41						
Flow mgd when disch	Av	0	0	0	0	0	0						
	Mx												
Mn mg/l daily comp	Av												
	2.0 Mx												
Inspections & Effluent Samples													
Letters & Reply													
Form 2/7 & Other Enforcement													
Misc.													

NPDES Permit: Effect. 8-9-86 Exp. 5-1-91
Limits: Interim ___ ECSL ___ Final ✓
Req. Monitoring: Infl. Effl. Reporting: M Q S A
Oper./Rep. [illegible] Title [illegible]
Phone Number: ( )

CARUS CHEMICAL COMPANY
1500 Eighth Street
LaSalle, IL. 61301

IL0002623

IL 532-0026
WPC 171

DWPC LAB DATA SUMMARY SHEET

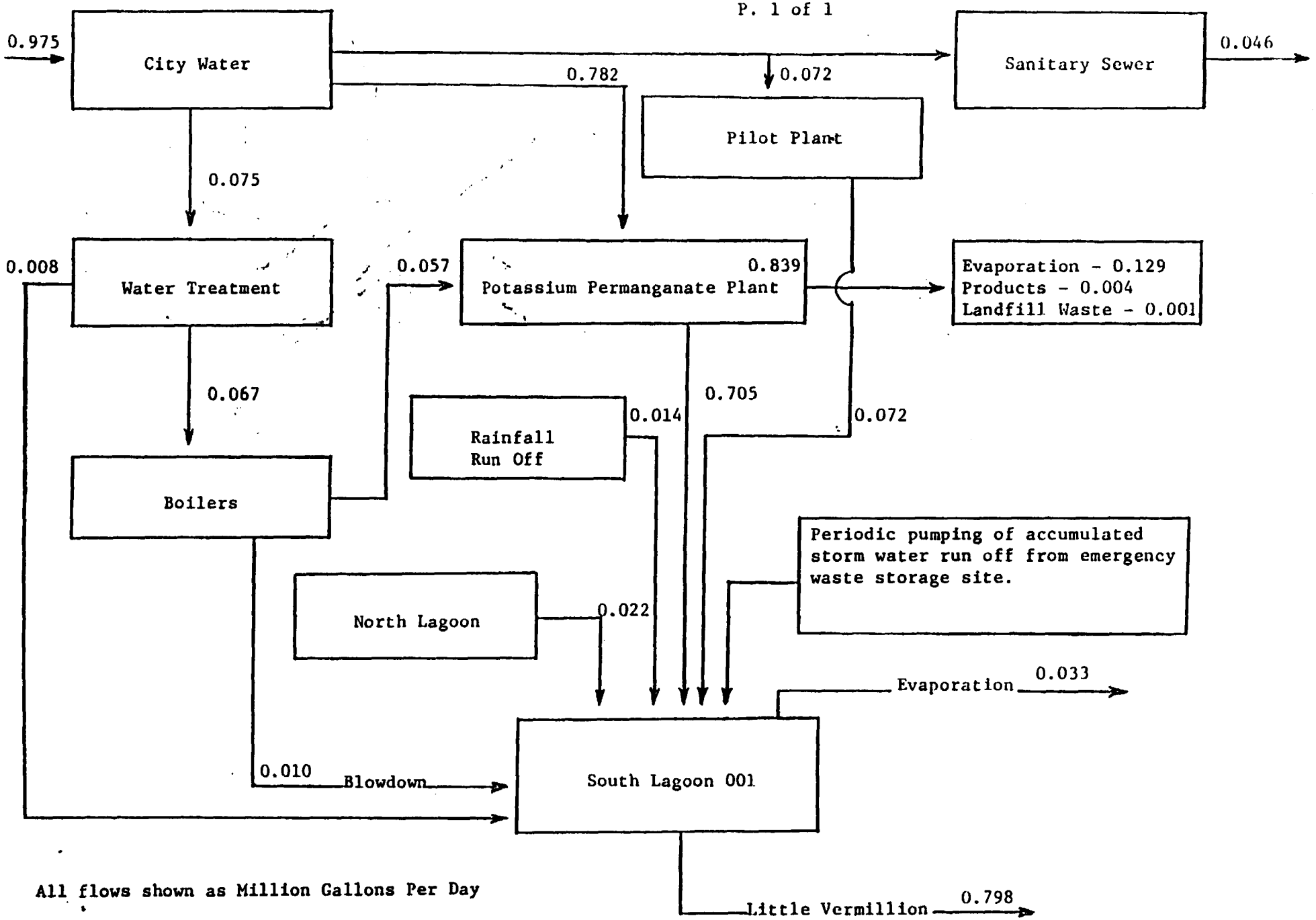
1990

DATE	pH	Phos	BOD	COD	NH_3	NO_3 NO_2	TDS	TSS	Cd	Cr^6	Cr^3	Cu	Cn	Fe	Pb	Hg	Ni	Zn	OIL
3/19	8.2	0.02	2	16	0.99	4.3	RDE 964	6	L.005	L.010	Cal .016			.062	L.050	Mn .373	L.050	.029	L1
									Turb NTU 8.3										

8
1

Carus Chemical Company
1375 8th Street
LaSalle, IL 61301

Schematic of Water Flow
Carus Chemical Co.
LaSalle, LaSalle, IL



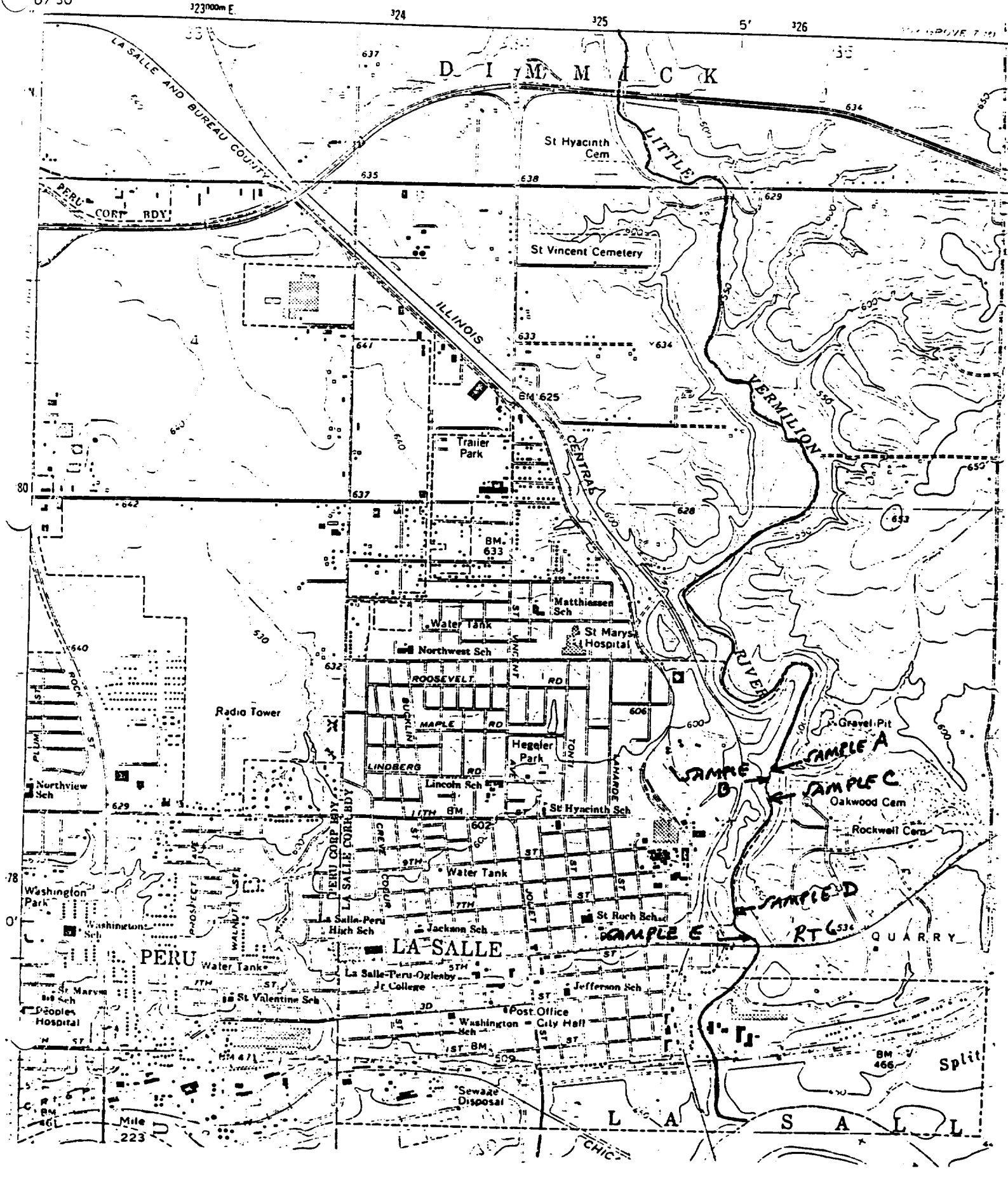
All flows shown as Million Gallons Per Day

[redacted]

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

M + H ZINC
10.18.82

ST
DEPARTMENT O
GEOLO



ANALYTICAL LABORATORY REPORT
15-May-90
10:28 AM

CC: M. ADOLF
J. MILLER
S. MEYER
D. BABOWSKI

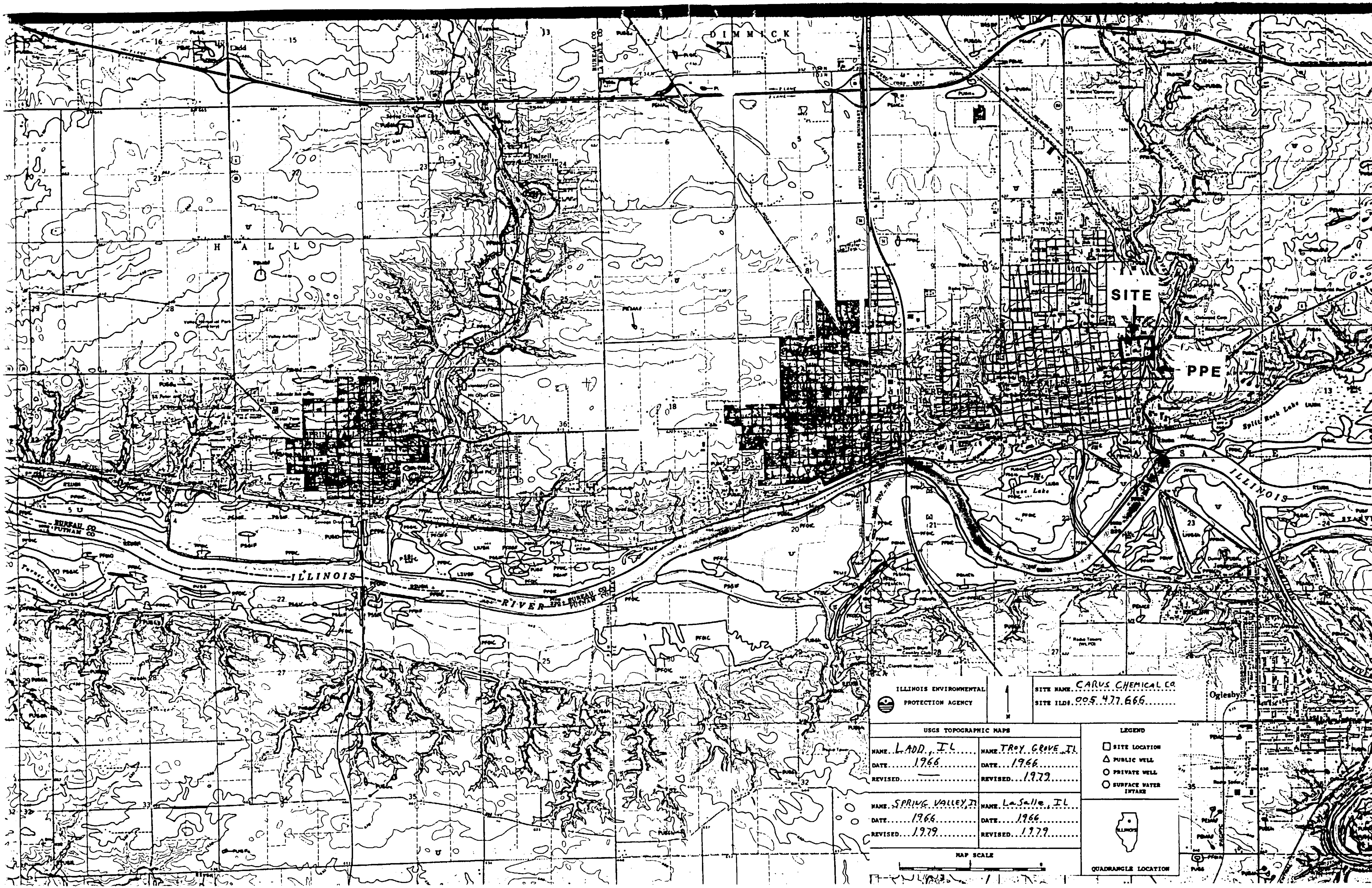
TO: W. MOSHAGE
FROM: _____
RE: DISCHARGE 001 - COMPOSITE FOR STATE REPORT
24 HR COMPOSITE COLLECTED FROM----- 10-May-90
TO----- 11-May-90

SAMPLE COMPOSITE:
AUTO SAMPLER 24 SAMPLES IN COMPOSITE
10.20 TIME OF FIRST SAMPLE 1 HOUR INTERVALS

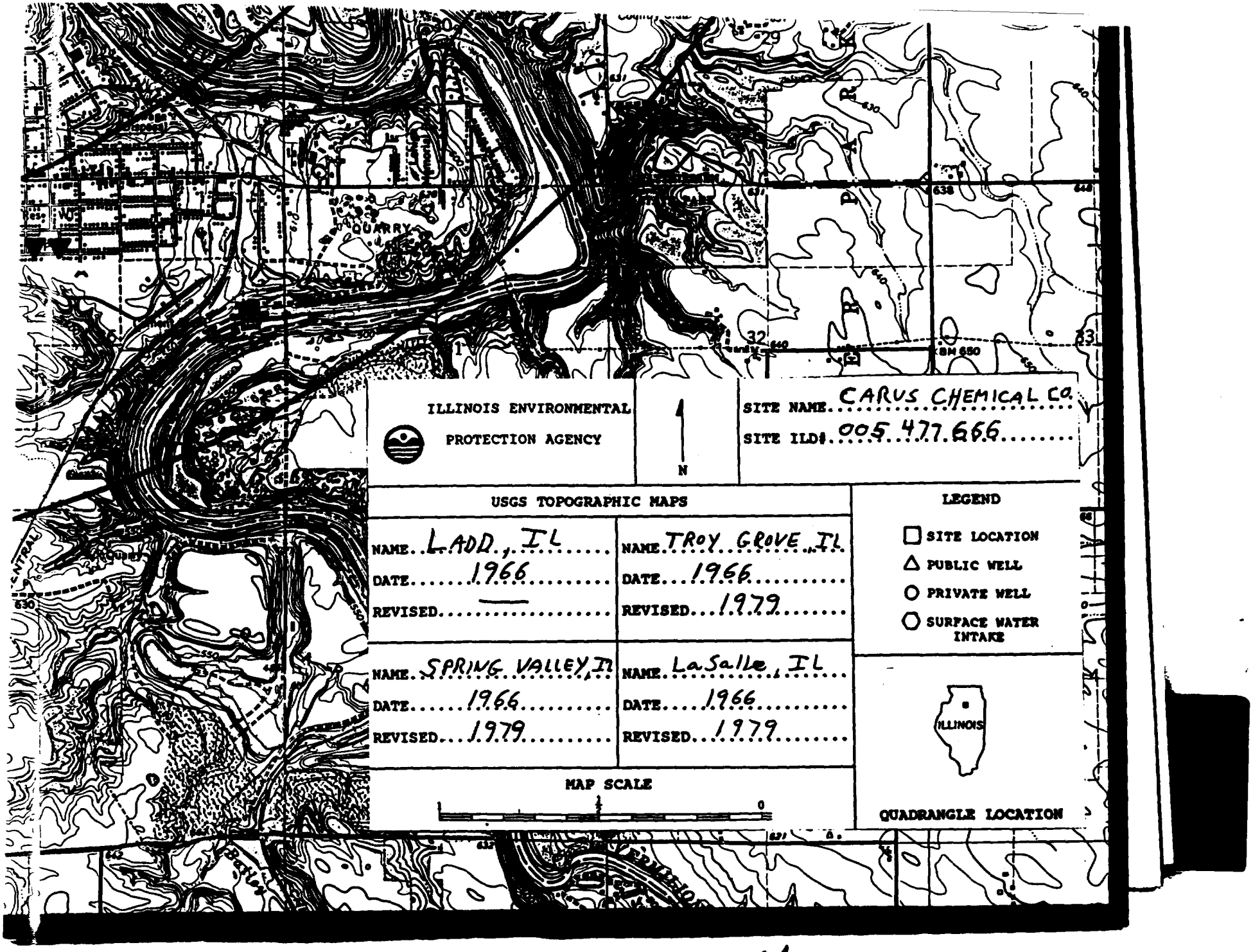
	NPDES DISCHARGE LIMITS 001	DISCHARGE 001	CITY WATER
pH.	6.0 - 9.0	8.11 @19.7 oC	7.07 @19.8 oC
TOTAL SUS SOLIDS	<= 15.0	NA	NA
TOTAL Mn	<= 1.0	0.33	0.32
OIL-FATS-GREASE	<= 30.0	NA	NA
AMMONIUM	<= 1.5	NA	NA
TEMPERATURE oC		16	16
COLOR		COLORLESS	

COMMENTS:

ALL RESULTS AND LIMITS ARE IN mg/L UNLESS OTHERWISE SHOWN, ALL METHODS PER EPA-600/4-79-020,"METHODS FOR CHEMICAL ANALYSIS OF WATER AND WASTE"
LIMITS SHOWN FOR DISCHARGE 001 ARE PER PERMIT #IL0002623
EFFECTIVE 8 AUGUST 84 TO 1 MAY 1991



DIMMICK
HALL
Ladd
Dalzell
Valley Airfield
ILLINOIS
RIVER
BUREAU CO
PUTNAM CO
SITE
PPE
Split Rock Lake
Oglesby
ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY
N
SITE NAME CARUS CHEMICAL CO
SITE ILD# 005 477 666
USGS TOPOGRAPHIC MAPS
NAME LADD, IL
DATE 1966
REVISED —
NAME TROY GROVE IL
DATE 1966
REVISED 1979
NAME SPRING VALLEY IL
DATE 1966
REVISED 1979
NAME LaSalle, IL
DATE 1966
REVISED 1979
LEGEND
SITE LOCATION
PUBLIC WELL
PRIVATE WELL
SURFACE WATER INTAKE
ILLINOIS
QUADRANGLE LOCATION
MAP SCALE



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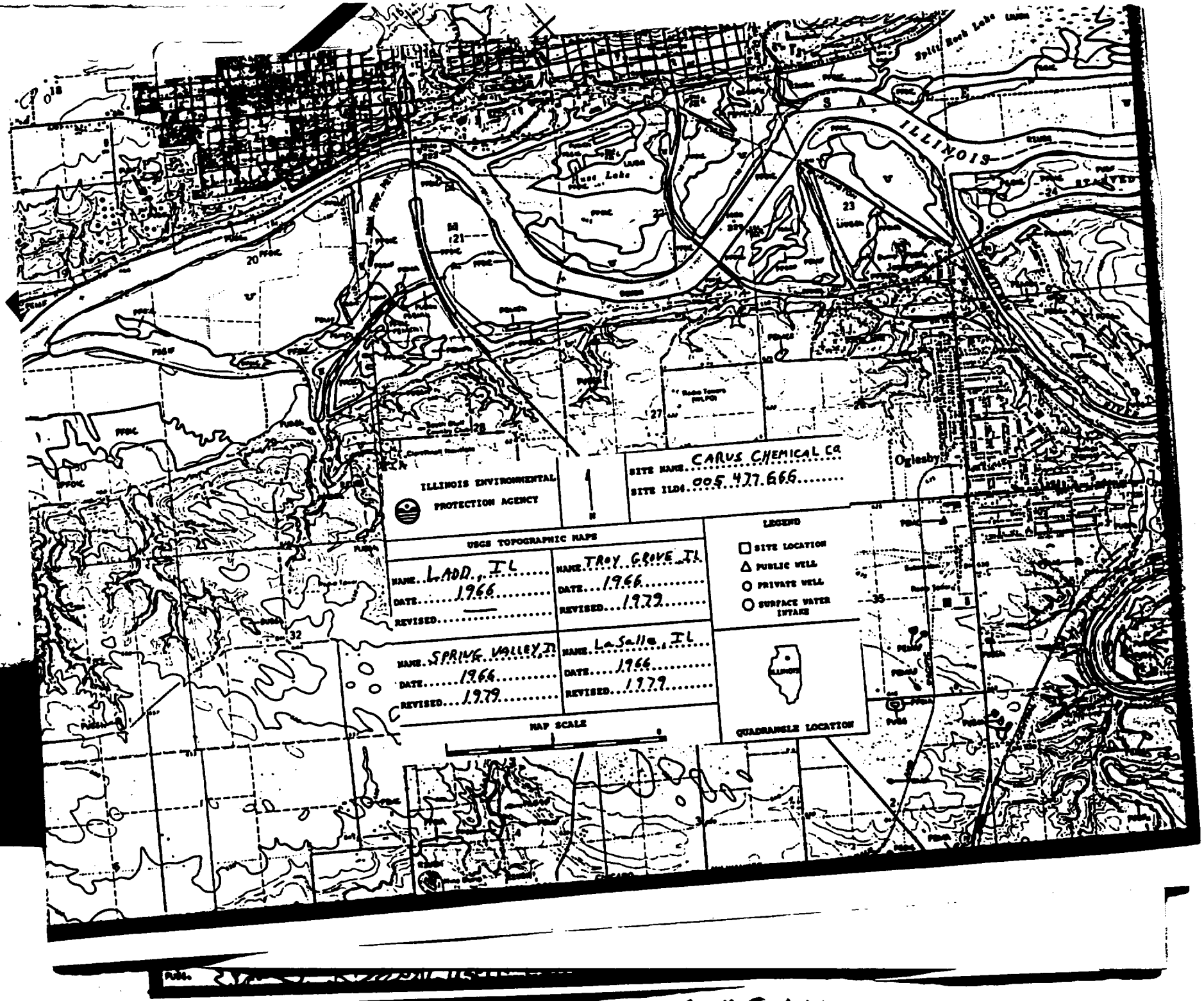

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4-MILE RADIUS MAP

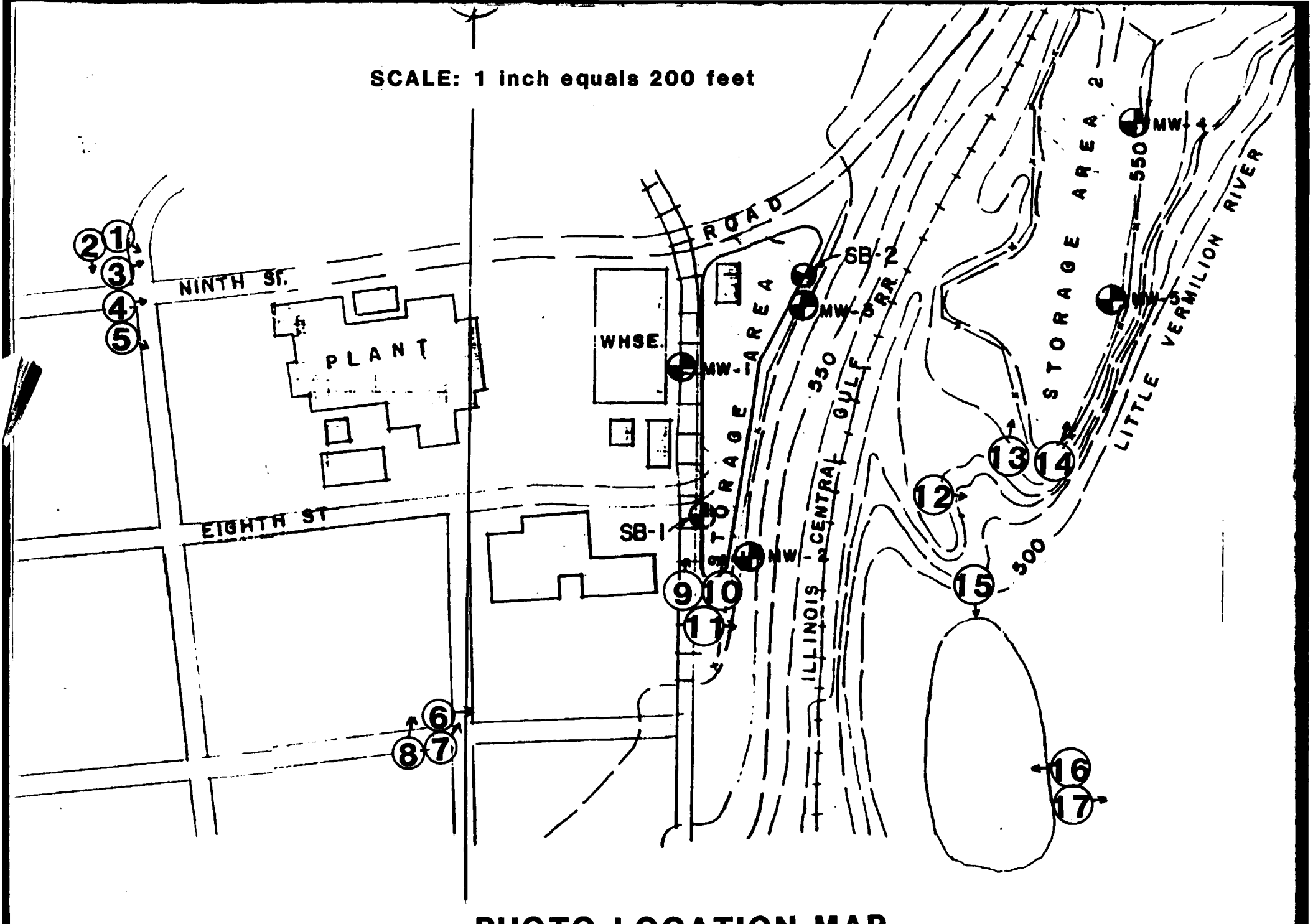


PHOTO LOCATION MAP

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
ILD	005477666

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION — 02 [ ] OBSERVED (DATE ___ / ___ / ___) [X] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 26,047 — 04 NARRATIVE DESCRIPTION

ALL PEOPLE WHO LIVE WITHIN A FOUR MILE RADIUS OF THE SITE USE GROUNDWATER FOR DRINKING.

01 [ ] B. SURFACE WATER CONTAMINATION — 02 [ ] OBSERVED (DATE ___ / ___ / ___) [X] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0 — 04 NARRATIVE DESCRIPTION

NO SURFACE WATER INTAKES WITHIN 15 MILES DOWNSTREAM OF THE SITE.

01 [ ] C. CONTAMINATION OF AIR — 02 [ ] OBSERVED (DATE ___ / ___ / ___) [X] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 27,714 — 04 NARRATIVE DESCRIPTION

NONE DOCUMENTED OR OBSERVED

01 [ ] D. FIRE/EXPLOSIVE CONDITIONS — 02 [ ] OBSERVED (DATE ___ / ___ / ___) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ___ — 04 NARRATIVE DESCRIPTION

NONE DOCUMENTED OR OBSERVED

01 [ ] E. DIRECT CONTACT — 02 [ ] OBSERVED (DATE ___ / ___ / ___) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ___ — 04 NARRATIVE DESCRIPTION

SITE IS SURROUNDED BY FENCES AND PATROLLED BY GUARDS.

01 [ ] F. CONTAMINATION OF SOIL — 02 [ ] OBSERVED (DATE ___ / ___ / ___) POTENTIAL ALLEGED
03 AREA POTENTIALLY AFFECTED: ___ (Acres) — 04 NARRATIVE DESCRIPTION

NONE DOCUMENTED OR OBSERVED

01 [ ] G. DRINKING WATER CONTAMINATION — 02 [ ] OBSERVED (DATE ___ / ___ / ___) [X] POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 26,047 — 04 NARRATIVE DESCRIPTION

ALL DRINKING WATER IS OBTAINED FROM WELLS.

01 [ ] H. WORKER EXPOSURE/INJURY — 02 [ ] OBSERVED (DATE ___ / ___ / ___) [X] POTENTIAL [ ] ALLEGED
03 WORKERS POTENTIALLY AFFECTED: 105 — 04 NARRATIVE DESCRIPTION

NONE DOCUMENTED OR OBSERVED

01 [ ] I. POPULATION EXPOSURE/INJURY — 02 [ ] OBSERVED (DATE ___ / ___ / ___) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ___ — 04 NARRATIVE DESCRIPTION

NONE DOCUMENTED OR OBSERVED

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: ILD | 02 SITE NUMBER: 005477666

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

NONE DOCUMENTED OR OBSERVED.

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include number(s) of specimens)

NONE DOCUMENTED OR OBSERVED

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

NONE DOCUMENTED OR OBSERVED

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills, runoff, standing liquids, leaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

NONE DOCUMENTED OR OBSERVED

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

NONE DOCUMENTED OR OBSERVED

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

NONE DOCUMENTED OR OBSERVED

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

NONE DOCUMENTED OR OBSERVED

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

NONE KNOWN

III. TOTAL POPULATION POTENTIALLY AFFECTED: 27,714

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

IEPA LAND DIVISION FILES ILL. DEPARTMENT OF CONSERVATION
IEPA WATER FILES
IEPA AIR FILES

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

EPA

I. IDENTIFICATION
01 STATE: ILD | 02 SITE NUMBER: 005477666

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
CARUS CHEMICAL COMPANY	1500 EIGHTH STREET				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
La Salle	IL	61301	LaSalle	099	IL-14
09 COORDINATES LATITUDE: 41 20 05.0	LONGITUDE: 89 05 00.0				

10 DIRECTIONS TO SITE (Starting from nearest public road)
TAKE RT 51 TO LaSalle EXIT. GO WEST ON RT 6 TO LaSalle AND TURN NORTH AT STERLING STREET. GO THREE BLOCKS TO EIGHTH STREET AND TURN RIGHT. ENTRANCE TO SITE IS STRAIGHT AHEAD.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)			
CARUS CHEMICAL COMPANY	1500 EIGHTH STREET			
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER	
La Salle	IL	61301	(815) 223-1500	
07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)			
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER	
			( )	

13 TYPE OF OWNERSHIP (Check one)
☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
☐ A. RCRA 3001 DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES ☐ NO DATE 5/23/91 (MONTH DAY YEAR)
BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)
CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)
☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION
1915 (BEGINNING YEAR) | PRESENT (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
INORGANIC SUBSTANCES: POTASSIUM PERMANGALATE, HYDROCHLORIC AND SULFURIC ACIDS, COPPER SULFATE, CERIUM AND CESIUM COMPOUNDS, SODIUM HYDROXIDE

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
GROUNDWATER (POPULATION/ENVIRONMENT) SOIL EXPOSURE (EMPLOYEES)
SURFACE WATER (ENVIRONMENT)
AIR (POPULATION/ENVIRONMENT)

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) ☒ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)			03 TELEPHONE NUMBER
HORST R. ADOLF	CARUS CHEMICAL CO.			(815) 224-6827
04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
ROBERT L. CASPER	IEPA	LPC/RPMS	(217) 782-6760	5/25/91 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	005477 666

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

(A) SOLID
(B) POWDER, FINES
(C) SLUDGE
E SLURRY
(F) LIQUID
G GAS
D OTHER _____ (Specify)

02 WASTE QUANTITY AT SITE

(Measures of waste quantities must be independent)

TONS
CUBIC YARDS
NO OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)

A TOXIC
(B) CORROSIVE
C RADIOACTIVE
D PERSISTENT
(E) SOLUBLE
F INFECTIOUS
G FLAMMABLE
(H) IGNITABLE
I HIGHLY VOLATILE
J EXPLOSIVE
(K) REACTIVE
L INCOMPATIBLE
M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
10C	POTASSIUM PERMANGANATE	7722-64-7			
10C	COPPER SULFATE	7758-98-7			
10C	HYDROCHLORIC ACID	7647-01-0			
10C	SULFURIC ACID	7664-93-9			
10C	NITRIC ACID	7697-37-2			
10C	SODIUM HYDROXIDE	1310-73-2			

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references e.g., state files, sample analysis, reports)

IEPA LAND DIVISION FILES

15-MILE SURFACE WATER MAP

Supporting Documentation

Supporting Documents

Table of Contents

REFERENCE NUMBER 01

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam. 5 in. Depth 159 ft.
   Curb material _____. Buried Slab: Yes_____ No_____
   b. Driven _____. Drive Pipe Diam. _____ in. Depth _____ ft.
   c. Drilled X. Finished in Drift _____. In Rock X.
   Tubular X. Gravel Packed _____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
Puddled Clay	0	68

2. Distance to Nearest:
   Building _____ Ft. Seepage Tile Field _____
   Cess Pool _____ Sewer (non Cast iron) _____
   Privy _____ Sewer (Cast iron) _____
   Septic Tank _____ Barnyard _____
   Leaching Pit _____ Manure Pile _____
3. Well furnishes water for human consumption? Yes X No_____
4. Date well completed February 7, 1983
5. Permanent Pump Installed? Yes___ Date _____ No X
   Manufacturer _____ Type _____ Location _____
   Capacity_____ gpm. Depth of Setting _____ Ft.
6. Well Top Sealed? Yes_____ No_____ Type _____
7. Pitless Adapter Installed? Yes_____ No_____
   Manufacturer _____ Model Number _____
   How attached to casing? _____
8. Well Disinfected? Yes X No _____
9. Pump and Equipment Disinfected? Yes X No _____
10. Pressure Tank Size_____ gal. Type _____
    Location _____
11. Water Sample Submitted? Yes_____ No_____

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Cemetary FOREST LAWN CEMETARY Well No. 2648M
    Address LaSalle, IL
    Driller S. Dean Albrecht License No. 102-120
11. Permit No. 106063 Date January 20, 1983
12. Water from rock (Formation) 13. County LaSalle
    at depth 120 to 159 ft.
    14. Screen: Diam. _____ in.
    Length: _____ ft. Slot _____
    Sec. 12 3b
    Twp. 33N
    Rge. 1E
    Elev. _____

SHOW LOCATION IN SECTION PLAT
NE SW SE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Steel	0	68

16. Size Hole below casing: 5 in. (cemetary)
17. Static level 60 ft. below casing top which is 1½ ft. above ground level. Pumping level _____ ft. when pumping at 25 gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
clay	1	1
sandstone St. Pete	11	12
tan limestone	43	55
gray limestone	65	120
gray limestone w/cracks	40	160

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED L. Dean Albrecht DATE 2/23/83
apa

IDPH 4.065
1/74 – KNB-1
(59671—12½M Sets—6-74) 5

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam. 5 in. Depth 118 ft.
   Curb material _____. Buried Slab: Yes_____ No_____
   b. Driven _____. Drive Pipe Diam. _____ in. Depth _____ ft.
   c. Drilled X. Finished in Drift _____. In Rock X.
   Tubular X. Gravel Packed _____.
   d. Grout:

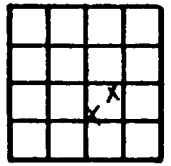
(KIND)	FROM (Ft.)	TO (Ft.)
Puddled Clay	0	53

2. Distance to Nearest:
   Building _____ Ft. Seepage Tile Field _____
   Cess Pool _____ Sewer (non Cast iron) _____
   Privy _____ Sewer (Cast iron) _____
   Septic Tank _____ Barnyard _____
   Leaching Pit _____ Manure Pile _____
3. Well furnishes water for human consumption? Yes X No_____
4. Date well completed June 30, 1982
5. Permanent Pump Installed? Yes X Date _____ No_____
   Manufacturer Standard Type subm Location in well
   Capacity 20 gpm. Depth of Setting 80 Ft.
6. Well Top Sealed? Yes X No_____ Type _____
7. Pitless Adapter Installed? Yes X No_____
   Manufacturer Snappy Model Number _____
   How attached to casing? _____
8. Well Disinfected? Yes x No _____
9. Pump and Equipment Disinfected? Yes x No _____
10. Pressure Tank Size _____ gal. Type 250 well-x-trol
    Location in basement
11. Water Sample Submitted? Yes_____ No_____

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner William Katecki Well No. 2599N
    Address LaSalle, Illinois
    Driller S. Dean Albrecht License No. 102-120
11. Permit No. 103802 Date June 12, 1982
12. Water from rock (Formation) 13. County LaSalle
    at depth 80 to 118 ft. Sec. 12 ¼
14. Screen: Diam. _____ in. Twp. 33N
    Length: _____ ft. Slot _____ Rge. 1E
    Elev. _____



SHOW LOCATION IN SECTION PLAT
SW NW SE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	PVC	0	53

16. Size Hole below casing: 5 in.
17. Static level _____ ft. below casing top which is 1 ½ ft. above ground level. Pumping level _____ ft. when pumping at 20 gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
top soil	3	3
yellow clay	3	6
sand stone	34	40
limestone shale	5	45
limestone	20	65
limestone, shale, sandstone	15	80
limestone	38	118

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED S. Dean Albrecht (Agent) DATE 8/6/82

IDPH 4.065
1/74 – KNB-1
(59671—12½M Sets—6-74)

W – Copy –
Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam. 5 in. Depth 150 ft.
   Curb material _____. Buried Slab: Yes_____ No_____
   b. Driven _____. Drive Pipe Diam. _____in. Depth _____ft.
   c. Drilled X. Finished in Drift _____. In Rock _____.
   Tubular _____. Gravel Packed _____.
   d. Grout:

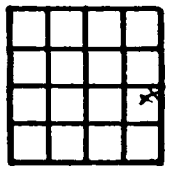
(KIND)	FROM (Ft.)	TO (Ft.)
Puddled Clay	0	88

2. Distance to Nearest:
   Building _____ Ft. Seepage Tile Field _____
   Cess Pool _____ Sewer (non Cast iron) _____
   Privy _____ Sewer (Cast iron) _____
   Septic Tank _____ Barnyard _____
   Leaching Pit _____ Manure Pile _____
3. Well furnishes water for human consumption? Yes X No_____
4. Date well completed May 27
5. Permanent Pump Installed? Yes X Date _____ No_____
   Manufacturer Red Jacket Type Sumb Location In Well
   Capacity 10 gpm. Depth of Setting 105 Ft.
6. Well Top Sealed? Yes X No_____ Type _____
7. Pitless Adapter Installed? Yes_____ No X
   Manufacturer _____ Model Number _____
   How attached to casing? _____
8. Well Disinfected? Yes X No _____
9. Pump and Equipment Disinfected? Yes_____ No _____
10. Pressure Tank Size_____ gal. Type _____
    Location _____
11. Water Sample Submitted? Yes_____ No_____

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner LaSalle Drive In Well No. 2420
    Address P.O. BOx 465 LaSalle, Il.
    Driller S. Dean Albrecht License No. 102-120
11. Permit No. 93984 Date May 21, 1980
12. Water from Limestone 13. County LaSalle
    at depth 10 to 150 (Formation) ft.
    Sec. 12.1d
14. Screen: Diam._____in. Twp. 33N
    Length:_____ft. Slot_____ Rge. 1E
    Elev. _____



SHOW LOCATION IN SECTION PLAT
NENE SE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Steel	0	88

16. Size Hole below casing: 5 in. (commercial operation)
17. Static level 50 ft. below casing top which is 1½ ft. above ground level. Pumping level 120 ft. when pumping at 20 gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	5	5
Clay	5	10
Limestone w/streaks of Shale	140	150

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED S. Dean Albrecht apa DATE June 20, 1980

IDPH 4.065
1/74 – KNB-1
(59571—12½M Sets—6-74) 5

White Co·
Ill. De, f Public Health
Yellow C - Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION RE ESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, ROOM 610, STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL / WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

1/67

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam.____in. Depth____ft.
   Curb material____. Buried Slab: Yes____No____
   b. Driven____. Drive Pipe Diam. 6 in. Depth 177 ft.
   c. Drilled X. Finished in Drift____. In Rock 325.
   Tubular____. Gravel Packed____.
   d. Grout:

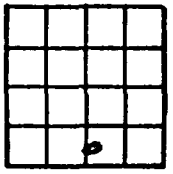
(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:
   Building 100 Ft. Seepage Tile Field____
   Cess Pool____ Sewer (non Cast iron)____
   Privy____ Sewer (Cast iron)____
   Septic Tank 150 Barnyard____
   Leaching Pit 200 Manure Pile____
3. Is water from this well to be used for human consumption?
   Yes X No____
4. Date well completed 5-5-68
5. Permanent Pump Installed? Yes____ No X
   Manufacturer____ Type____
   Capacity____.gpm. Depth of setting____ft.
6. Well Top Sealed? Yes____ No____
7. Pitless Adaptor Installed? Yes____ No____
8. Well Disinfected? Yes____ No____
9. Water Sample Submitted? Yes____ No X

REMARKS: 6" PIPE WAS DRIVEN FROM SURFACE WELL IN TO BED ROCK THE SMALL ANNULAR SPACE WAS FILLED WITH BENTONITE AND CUTTINGS

GEOLOGICAL WATER SURVEYS WATER WELL RECORD

10. Dept. Mines and Minerals permit No. 4728 Year 1968
11. Property owner CLEM JASIEK Well No. I
    Address TWP 33 N. RA. SALLE ILL
    Driller CHAS. F. WOODRUFF CO License No. 99-409
12. Water from SAND STONE Formation 13. County LA SALLE
    at depth 285 to 325 ft. Sec. 2
14. Screen: Diam.____in. Twp. 33-N
    Length:____ft. Slot____ Rng. 1-E
    Elev.____



SHOW LOCATION IN SECTION PLAT
500N 2000W
SE/c NE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
6	T.C. BLK 19#	0	177
5	P.E. " 15#	159	235
	PERFORATED		

16. Size Hole below casing: 5 in.
17. Static level 95 ft. below casing top which is 1 ft. above ground level. Pumping level 105 ft. when pumping at 20 gpm for 2 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
~~CLAY~~	5	5
SHALE	105	110
SHALE & LIME SHELLS THIN	60	170
COAL	5	175
SAND ROCK	30	205
LIME	25	230
CLAY	5	235
LIME	50	285
~~SAND STONE~~	40	325
(CONTINUE ON SEPARATE SHEET IF NECESSARY)		

SIGNED W. L. Hamilton DATE 5-18-68

White – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, BUREAU OF ENVIRONMENTAL HEALTH, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62701. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug ____. Bored ____. Hole Diam. 5 in. Depth 105 ft.
   Curb material ____. Buried Slab: Yes ____ No ____
   b. Driven ____. Drive Pipe Diam. 5 in. Depth 40 ft.
   c. Drilled X. Finished in Drift ____. In Rock X.
   Tubular ____. Gravel Packed ____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

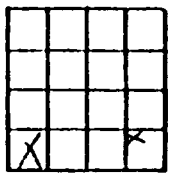
2. Distance to Nearest:
   Building 35 Ft. Seepage Tile Field 751
   Cess Pool ____ Sewer (non Cast iron) ____
   Privy ____ Sewer (Cast iron) ____
   Septic Tank 501 Barnyard ____
   Leaching Pit ____ Manure Pile ____
3. Is water from this well to be used for human consumption?
   Yes X No ____
4. Date well completed 11-26-78
5. Permanent Pump Installed? Yes ____ No X
   Manufacturer ____ Type ____
   Capacity ____ gpm. Depth of setting ____ ft.
6. Well Top Sealed? Yes X No ____
7. Pitless Adaptor Installed? Yes ____ No X
8. Well Disinfected? Yes X No ____
9. Water Sample Submitted? Yes ____ No X

REMARKS:

IDPH 4.065
10-7
KNL

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Tri-County Well + Pump Well No. 1
    Address Rt. 1, LaSalle, Ill.
    Driller Charles Fyke License No. 23
11. Permit No. 82006 Date 11-16-78
12. Water from St. Peter Sand (Formation) 13. County LaSalle
    at depth 36 to 105 ft. Sec. 11, 26
    14. Screen: Diam. ____ in. Twp. 33N
    Length: ____ ft. Slot ____ Rge. 1E
    Elev. ____



SHOW LOCATION IN SECTION PLAT
NW SE SE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Schedule 40 PVC	0	40
	1120-NSF 2.87#		

16. Size Hole below casing: 5 in.
17. Static level 40 ft. below casing top which is +1 ft. above ground level. Pumping level 45 ft. when pumping at 10 gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Clay	10	10
Limestone	26	36
St Peter Sand	69	105

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Charles Fyke DATE 1-16-80

White Copy Ill. Dep. Public Health
Yellow Co. - Well Contractor
Blue Copy Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, ROOM 614, STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

1/67

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam.____in. Depth____ft.
   Curb material____. Buried Slab: Yes____No____
   b. Driven____. Drive Pipe Diam.____in. Depth____ft.
   c. Drilled X. Finished in Drift X. In Rock____.
   Tubular X. Gravel Packed____.
   d. Grout:

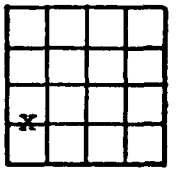
(KIND)	FROM (Ft.)	TO (Ft.)
puddled	0	48

2. Distance to Nearest:
   Building 50 Ft. Seepage Tile Field 75
   Cess Pool nome Sewer (non Cast iron) 50
   Privy none Sewer (Cast iron) 15
   Septic Tank 50 Barnyard ~~XXXXX~~ 60
   Leaching Pit none Manure Pile none
3. Is water from this well to be used for human consumption?
   Yes X No____
4. Date well completed April 22, 1969
5. Permanent Pump Installed? Yes X No____
   Manufacturer Red Jacket Type Submersible
   Capacity 1/3 gpm. Depth of setting 42 ft.
6. Well Top Sealed? Yes____No X
7. Pitless Adaptor Installed? Yes X No____
8. Well Disinfected? Yes X No____
9. Water Sample Submitted? Yes____No X

REMARKS:

GEOLOGICAL WATER SURVEYS WATER WELL RECORD

10. Dept. Mines and Minerals permit No. ~~WP5925~~ 7571 Year 1969
11. Property owner Geo. Blakely, Jr. Well No. 1009
    Address 1902 Plain St. Peru, Illinois
    Driller S. Dean Albrecht License No. 92-350
12. Water from shale (Formation)
    at depth 47 to 110 ft.
    13. County LaSalle
    Sec. 6
    Twp. 33N
    Rng. 1E
    Elev.____
14. Screen: Diam. 2 in.
    Length:____ft. Slot____



SHOW LOCATION IN SECTION PLAT

75's 60'E NW/c SW SW

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	galv	0	48

16. Size Hole below casing: 5 in.
17. Static level 20 ft. below casing top which is 1½ ft. above ground level. Pumping level 110 ft. when pumping at 3 gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
yellow clay	11	11
gray clay	4	15
gravel	3	18
gray clay	5	23
dry sand	1	24
gray clay	12	36
dry sand	2	38
clay	1	39
dry gravel	1	40
clay	7	47
gray shale	18	65
soft gray shale	13	78
red shale	32	110
(CONTINUE ON SEPARATE SHEET IF NECESSARY)		

SIGNED S Dean Albrecht E.H. DATE May 23, 1969

White Co. – Ill. Dep. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug ____. Bored ____. Hole Diam. 5 in. Depth 400 ft.
      Curb material ____. Buried Slab: Yes ____ No ____
   b. Driven ____. Drive Pipe Diam. ____ in. Depth ____ ft.
   c. Drilled ____. Finished in Drift ____. In Rock Shale
      Tubular ____. Gravel Packed ____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
Shale		

2. Distance to Nearest:
   Building ____ Ft. Seepage Tile Field ____
   Cess Pool ____ Sewer (non Cast Iron) ____
   Privy ____ Sewer (Cast Iron) ____
   Septic Tank 75 Barnyard ____
   Leaching Pit ____ Manure Pile ____
3. Well furnishes water for human consumption? Yes ____ No ____
4. Date well completed 8/1/78 - Dry Hole
5. Permanent Pump Installed? Yes ____ Date ____ No ____
   Manufacturer ____ Type ____ Location ____
   Capacity ____ gpm. Depth of Setting ____ Ft.
6. Well Top Sealed? Yes ____ No ____ Type ____
7. Pitless Adapter Installed? Yes ____ No ____
   Manufacturer ____ Model Number ____
   How attached to casing? ____
8. Well Disinfected? Yes ____ No ____
9. Pump and Equipment Disinfected? Yes ____ No ____
10. Pressure Tank Size ____ gal. Type ____
    Location ____
11. Water Sample Submitted? Yes ____ No ____

REMARKS: Dry Hole

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Bob Bosostowski Well No. ____
    Address 2705 St. Vincents Avenue - Lasalle, Illinois
    Driller L & L Well Drilling License No. 102-231
11. Permit No. 73203 Date 6/22/78
12. Water from Shale (Formation) 13. County LaSalle
    at depth 160 to 400 ft. Sec. 3,14
14. Screen: Diam. ____ in. Twp. 33N
    Length: ____ ft. Slot ____ Rge. 1E
    Elev. ____

SHOW LOCATION IN SECTION PLAT: NE NE NE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Plastic	0	162

16. Size Hole below casing: 5 in.
17. Static level ____ ft. below casing top which is ____ ft. above ground level. Pumping level ____ ft. when pumping at ____ gpm for ____ hours.

18.

FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	5	5
Clay	155	160
Shale	240	400

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Tommie Joe Mitherly P.B. DATE 8/23/78

IDPH 4.065
1/74 – KNB-1

White Copy — Ill. Dept. Public Health
Yellow Copy — Well Contractor
Blue Copy — Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION RE[QUE]STED AND MAIL ORIGINAL TO STATE DE-PARTMENT OF PUBLIC HEALTH, ROOM 616, STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL /WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

1/67

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam.____in. Depth____ft.
   Curb material ________. Buried Slab: Yes______No______
   b. Driven ______. Drive Pipe Diam. ____in. Depth ______ft.
   c. Drilled X. Finished in Drift X. In Rock ______.
   Tubular X. Gravel Packed ________.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
Pudaled clay	0	68

2. Distance to Nearest:
   Building 20 Ft. Seepage Tile Field 120
   Cess Pool none Sewer (non Cast iron) none
   Privy none Sewer (Cast iron) 20
   Septic Tank 100 Barnyard none
   Leaching Pit none Manure Pile none
3. Is water from this well to be used for human consumption?
   Yes x No______
4. Date well completed July 17, 1968
5. [Perma]nent Pump Installed? Yes X No______
   [Manufact]urer Goulds Type submersible
   [Capacity] Hp gpm. Depth of setting 42 ft.
   [...]? Yes x No______
   [...]alled? Yes x No______
   [...] ______ No ______
   Yes ______ No X

GEOLOGICAL WATER SURVEYS WATER WELL RECORD

10. Dept. Mines and Minerals [...] No. N-4076 Year 1968
11. Property owner John B[...]wski Well No. 055
    Address 712 13 th S[t.] [...] Peru, Illinois
    Driller S. Dean Alb[...] License No. 92-350
12. Water from Sand & gr[avel] (Formation) 13. County LaSalle
    at depth 52-75 75 f[t.]
    Sec. 32
    Twp. 34 N
    Rng. 12
    Elev. ______
14. Screen: Diam. 5 in.
    Length 4 ft. Slot ______
15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	galv	0	68

SHOW LOCATION IN SECTION PLAT

16. Size Hole below casing: 5 in.
17. Static level 18 ft. below casing to, which is 13 ft. above ground level. Pumping level 20 ft. when pumping at 15 gpm for 2 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Fill	5	5
~~Yellow clay~~	5	10
Sand & gravel	25	35
Yellow clay, sand	3	38
~~Rock~~	1	39
Gray clay	13	52
Sand & gravel	23	75
(CONTINUE ON SEPARATE SHEET IF NECESSARY)		

SIGNED [signature] DATE Sep 28, 1968

White Copy - Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug ____. Bored X. Hole Diam. 24 in. Depth 44 ft.
   Curb material Concrete Buried Slab: Yes X No ____
   b. Driven ____. Drive Pipe Diam. ____ in. Depth ____ ft.
   c. Drilled ____. Finished in Drift ____. In Rock ____.
   Tubular ____. Gravel Packed ____.
   d. Grout:

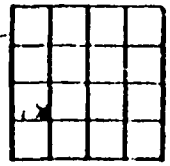
(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:
   Building 40 Ft. Seepage Tile Field 100
   Cess Pool ____ Sewer (non Cast iron) ____
   Privy ____ Sewer (Cast iron) ____
   Septic Tank 100 Barnyard ____
   Leaching Pit ____ Manure Pile ____
3. Well furnishes water for human consumption? Yes X No ____
4. Date well completed 9-2-28
5. Permanent Pump Installed? Yes ____ Date ____ No X
   Manufacturer ____ Type ____ Location ____
   Capacity ____ gpm. Depth of Setting ____ Ft.
6. Well Top Sealed? Yes ____ No ____ Type ____
7. Pitless Adapter Installed? Yes X No ____
   Manufacturer BAKER Model Number 5PL76 PLAIN
   How attached to casing? CLAMPED
8. Well Disinfected? Yes ____ No ____
9. Pump and Equipment Disinfected? Yes ____ No ____
10. Pressure Tank Size ____ gal. Type ____
    Location ____
11. Water Sample Submitted? Yes ____ No X

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner ALBERT SCHALLE Well No. 2-
    Address PERU
    Driller ALBERT SCHALLE License No. 072-013425
11. Permit No. 28526 Date 8-31-28
12. Water from GRAVEL (Formation) 13. County LA SALLE
    at depth 35 to 38 ft.
14. Screen: Diam. ____ in.
    Length: ____ ft. Slot ____
    Sec. 18
    Twp. 33N
    Rge. 1E
    Elev. ____



SHOW LOCATION IN SECTION PLAT
SE NW SW

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
24	Concrete	12	44

16. Size Hole below casing: ____ in.
17. Static level 18 ft. below casing top which is 1 ft. above ground level. Pumping level ____ ft. when pumping at ____ gpm for ____ hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
TOP SOIL	1	1
YELLOW CLAY	14	15
SOFT BLUE SHALE	20	35
GRAVEL	3	38
RED SHALE	6	44

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Robert W. Schalle DATE 11-12-28

PH 4.065
1/74 – KNB-1

White Cop: Ill. Dept. Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, ROOM [illegible] STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL / WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

1/67

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam.____in. Depth____ft.
   Curb material _____. Buried Slab: Yes_____No_____
   b. Driven X. Drive Pipe Diam. 5" in. Depth 82 ft.
   c. Drilled _____. Finished in Drift 95. In Rock_____.
   Tubular _____. Gravel Packed _____.
   d. Grout:

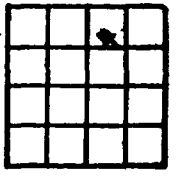
(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:
   Building 20 Ft. Seepage Tile Field _____
   Cess Pool _____ Sewer (non Cast iron) _____
   Privy _____ Sewer (Cast iron) _____
   Septic Tank 65 Barnyard _____
   Leaching Pit _____ Manure Pile _____
3. Is water from this well to be used for human consumption?
   Yes X No _____
4. Date well completed 10-15-68
5. Permanent Pump Installed? Yes_____ No X
   Manufacturer _____ Type _____
   Capacity _____gpm. Depth of setting _____ ft.
6. Well Top Sealed? Yes_____ No_____
7. Pitless Adaptor Installed? Yes_____ No_____
8. Well Disinfected? Yes_____ No_____
9. Water Sample Submitted? Yes_____ No X

REMARKS: 5" DRIVE PIPE WAS DRIVEN FROM SURFACE TO 82' THE SMALL ANNULAR SPACE WAS FILLED WITH BENONITE & CUTTINGS

GEOLOGICAL WATER SURVEYS WATER WELL RECORD

10. Dept. Mines and Minerals permit No. NE5031 Year 1968
11. Property owner Mrs CARL SPITTSTOESSER Well No. _____
    Address OGLESBY ILL
    Driller CHAS. E. WOODRAEE License No. 92-409
12. Water from SAND & GRAVEL (Formation) 15.0 County LA SALLE
    at depth 85 to 95 ft.
14. Screen: Diam._____in.
    Length:_____ft. Slot _____
    Sec. 26 NW
    Twp. 33-N
    Rng 1-E
    Elev. _____



SHOW LOCATION IN SECTION PLAT
SE NW NE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	T&C. BLK 14"	0	82
4	PLE " 11 #	75"	95"
	PERFORATED		

16. Size Hole below casing:_____in.
17. Static level 55" ft. below casing top which is 1 ft. above ground level. Pumping level 60 ft. when pumping at 10 gpm for 2 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
CLAY	25	25"
SAND & GRAVEL	70	95"
(CONTINUE ON SEPARATE SHEET IF NECESSARY)		

SIGNED W. L. Hamton DATE 11-5-68

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam. 5 in. Depth 50 ft.
   Curb material _____. Buried Slab: Yes_____ No_____
   b. Driven_____. Drive Pipe Diam. _____in. Depth _____ft.
   c. Drilled _____. Finished in Drift _____. In Rock Shale
   Tubular _____. Gravel Packed _____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
Cuttings		

2. Distance to Nearest:
   Building 22 Ft. — Seepage Tile Field _____
   Cess Pool _____ — Sewer (non Cast iron) _____
   Privy _____ — Sewer (Cast iron) _____
   Septic Tank 75 — Barnyard _____
   Leaching Pit _____ — Manure Pile _____
3. Well furnishes water for human consumption? Yes X No_____
4. Date well completed 8-13-80
5. Permanent Pump Installed? Yes X Date 9-13-80 No_____
   Manufacturer Sta-Rite Type Subm. Location Well
   Capacity 15 gpm. Depth of Setting 38 Ft.
6. Well Top Sealed? Yes X No_____ Type Martinson
7. Pitless Adapter Installed? Yes X No_____
   Manufacturer Martinson Model Number SP10
   How attached to casing? bolted
8. Well Disinfected? Yes X No_____
9. Pump and Equipment Disinfected? Yes X No_____
10. Pressure Tank Size 42 gal. Type non aire
    Location basement
11. Water Sample Submitted? Yes_____ No X

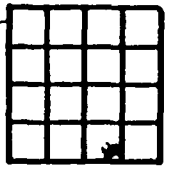
REMARKS:

OWNER INSTRUCTED TO TAKE SAMPLE

IDPH 4.065
1/74 – KNB-1

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner B. J. Strozewski Well No. _____
    Address 813 Creve Coeur, La Salle, Il 61301
    Driller Phil Knieriem License No. 102 84
11. Permit No. 94659 Date 7-2-80
12. Water from Shale (Formation)
    at depth 45 to 50 ft.
13. County La Salle
    Sec. 22 3a
    Twp. 33N
    Rge. 1E
    Elev. _____
14. Screen: Diam. _____in.
    Length: _____ft. Slot _____



SHOW LOCATION IN SECTION PLAT
SE SW SE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Steel	0	43

16. Size Hole below casing: 5 in.
17. Static level 23 ft. below casing top which is 1 ft. above ground level. Pumping level 38 ft. when pumping at 20 gpm for 4 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	1	1
Clay	42	43
Rock	2	45
Shale	5	50

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Phil Knieriem DATE 9-17-80
le

White Copy – Ill. Dept. of Pub. Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUIRED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug ____. Bored x. Hole Diam. 32 in. Depth 48 ft.
   Curb material concrete Buried Slab: Yes x No ____
   b. Driven ____. Drive Pipe Diam. ____ in. Depth ____ ft.
   c. Drilled ____. Finished in Drift ____. In Rock ____.
   Tubular ____. Gravel Packed ____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:
   Building – Ft. Seepage Tile Field –
   Cess Pool – Sewer (non Cast iron) –
   Privy – Sewer (Cast iron) –
   Septic Tank – Barnyard –
   Leaching Pit – Manure Pile –
3. Well furnishes water for human consumption? Yes x No ____
4. Date well completed 5/2/78
5. Permanent Pump Installed? Yes ____ Date ____ No x
   Manufacturer ____ Type ____ Location ____
   Capacity ____ gpm. Depth of Setting ____ Ft.
6. Well Top Sealed? Yes x No ____ Type vented cap
7. Pitless Adapter Installed? Yes x No ____
   Manufacturer Baker Model Number 5PLT6P12WM
   How attached to casing? clamp-on
8. Well Disinfected? Yes x No ____
9. Pump and Equipment Disinfected? Yes ____ No ____
10. Pressure Tank Size ____ gal. Type ____
    Location ____
11. Water Sample Submitted? Yes ____ No x

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Jack Ator Well No. ____
    Address 2705 St. Vincent LaSalle, Ill.
    Driller Steven Sauder License No. 92-622
11. Permit No. 73795 Date 5/2/78
12. Water from yellow gravel (Formation) 13. County LaSalle
    at depth 11 to 12 ft. Sec. 3
14. Screen: Diam. – in. Twp. 33N
    Length: ____ ft. Slot ____ Rge. 1E
    Elev. ____

SHOW LOCATION IN SECTION PLAT
955', 300'E SW/4 NE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
6	PVC	1	10
24	concrete	10	48

16. Size Hole below casing: --- in.
17. Static level ____ ft. below casing top which is ____ ft. above ground level. Pumping level ____ ft. when pumping at ____ gpm for ____ hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
clay- yellow	11	11
gravel- yellow	1	12
clay- gray, green	13	25
shale- red	10	35
shale- gray, white, powdery	13	48

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Steven Sauder DATE 5/5/78

IDPH 4.065
1/74 – KNB-1

White – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug ____. Bored ____. Hole Diam. 5 in. Depth 32 ft.
   Curb material ____. Buried Slab: Yes ____ No ____
   b. Driven ____. Drive Pipe Diam. ____ in. Depth ____ ft.
   c. Drilled X. Finished in Drift X. In Rock ____.
   Tubular X. Gravel Packed ____.
   d. Grout:

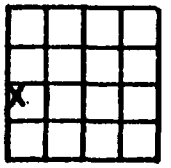
(KIND)	FROM (Ft.)	TO (Ft.)
puddled		
clay	0	28

2. Distance to Nearest:
   Building ____ Ft. Seepage Tile Field ____
   Cess Pool ____ Sewer (non Cast iron) ____
   Privy ____ Sewer (Cast iron) ____
   Septic Tank ____ Barnyard ____
   Leaching Pit ____ Manure Pile ____
3. Well furnishes water for human consumption? Yes X No ____
4. Date well completed July 21, 1984
5. Permanent Pump Installed? Yes X Date ____ No ____
   Manufacturer R.J. Type subm Location in well
   Capacity 25 gpm. Depth of Setting 21 Ft.
6. Well Top Sealed? Yes X No ____ Type k-type
7. Pitless Adapter Installed? Yes X No ____
   Manufacturer Wells Model Number ____
   How attached to casing? ____
8. Well Disinfected? Yes X No ____
9. Pump and Equipment Disinfected? Yes X No ____
10. Pressure Tank Size ____ gal. Type ____
    Location ____
11. Water Sample Submitted? Yes ____ No ____

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner MELVIN SEIBERT Well No. 2270M
    Address LaSalle, IL
    Driller S. Dean Albrecht License No. 102-120
11. Permit No. ~~112389~~ 112389 Date 5-16-84
12. Water from sand (Formation) 13. County LaSalle
    at depth 18 to 32 ft. Sec. 36
14. Screen: Diam. 4 in. Twp. 33N
    Length: 4 ft. Slot 12 Rge. 1E
    Elev. ____



SHOW LOCATION IN SECTION PLAT
NW 1/4 NW 1/4 SW

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	PVC	0	28

16. Size Hole below casing: 5 in.
17. Static level 12 ft. below casing top which is 1½ ft. above ground level. Pumping level 29 ft. when pumping at 25 gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
brown clay & sand	13	13
gray clay	5	18
sand	1	19
sticky gray clay	10	29
gravel	2	31
shale		

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Ann P Albrecht (gal) DATE 8/24/84

OPH 4.065
4/74 – KNB-1

White Copy – Ill. Dept. of Pub. Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, ROOM 616, STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug ____. Bored ✓. Hole Diam. 32 in. Depth 54 ft.
   Curb material Concrete Buried Slab: Yes ____ No ✓
   b. Driven ____. Drive Pipe Diam. ____ in. Depth ____ ft.
   c. Drilled ____. Finished in Drift ____. In Rock ____.
   Tubular ____. Gravel Packed Yes.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
Concrete	0'	10'

2. Distance to Nearest: new construction
   Building House - 35 Ft. Seepage Tile Field no
   Cess Pool no Sewer (non Cast iron) no
   Privy no Sewer (Cast iron) no
   Septic Tank no Barnyard no
   Leaching Pit no Manure Pile no
3. Is water from this well to be used for human consumption?
   Yes ✓ No ____
4. Date well completed 7-11-69
5. Permanent Pump Installed? Yes ____ No ____
   Manufacturer ____ Type ____
   Capacity ____ gpm. Depth of setting ____ ft.
6. Well Top Sealed? Yes ✓ No ____
7. Pitless Adaptor Installed? Yes ____ No ____
8. Well Disinfected? Yes ____ No ____
9. Water Sample Submitted? Yes ____ No ____

REMARKS:

Do not install Pumps

IDPH 4.065
10/68

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Alfred & Lucille Boers Well No. ____
    Address RR# Box 27 - Pekin, Ill.
    Driller E. T. Hampton License No. 92-185
11. Permit No. NF6008 Date 6-28-69
12. Water from 18 to 22 (Formation) 13. County Tazewell
    at depth ____ to ____ ft. Sec. 7 1a
14. Screen: Diam. ____ in. Twp. 24N
    Length: ____ ft. Slot ____ Rge. 1E
    Elev. ____

SHOW LOCATION IN SECTION PLAT

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
24	Concrete Casing	1	54

16. Size Hole below casing: ____ in.
17. Static level ____ ft. below casing top which is ____ ft. above ground level. Pumping level ____ ft. when pumping at ____ gpm for ____ hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Black top soil	1'	2'
Yellow boulders	2'	18'
Yellow sand & Water	18'	22'
Blue Clay	22'	54'

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Edward T. Hampton DATE 7-9-69

Partial

33
1
25

City north of Cedar Point County La Salle

Section 28 Twp. No. 33 N. Range 1 E.

Location (in feet from section corner) 2580' N. & 100' E. of S.W. corner

Owner John Massiem Authority S.G.S. & driller's record

Contractor Daniel L. Schmidt Address Menbota

Date drilled 1939 Elev. above sea level top of well

Depth 83'

Log 15' yellow clay; 20' blue clay; 10' hardpan; 20' blue clay & stone; 15' blue clay & fine clay; 3' sand & gravel

Were drill cuttings saved Where filed

Size hole If reduced, where and how much

Casing record 4" to 80' 8'4" of 1½" Clayton Mark 60 gauge screen

Distance to water when not pumping 60' Distance to water is

feet after pumping at 10 G. P. M. for hours.

Reference point for above measurements

Type of pump Distance to cylinder

Length of cylinder Length of suction pipe below cylinder

Length stroke Speed

Hours used per day Type of power

Rating of motor Rating of pump in G. P. M.

Can following be measured: (1) Static water level

(2) Pumping level (3) Discharge

(4) Influence on other wells

Temperature of water Was water sample collected yes

Date 3/12/40 Effect of water on meters, hot water coils, etc.

Date of Analysis Analysis No. 87464

Recorder J. Stobbe

Date 3/6/40

2807-22617 12

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug ____. Bored ____. Hole Diam. 5 in. Depth 41 ft.
   Curb material ____. Buried Slab: Yes ____ No ____
   b. Driven ____. Drive Pipe Diam. ____ in. Depth ____ ft.
   c. Drilled X. Finished in Drift X. In Rock ____.
   Tubular X. Gravel Packed ____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
puddled		
clay	0	34

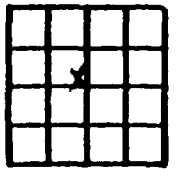
2. Distance to Nearest:
   Building ____ Ft. Seepage Tile Field ____
   Cess Pool ____ Sewer (non Cast iron) ____
   Privy ____ Sewer (Cast iron) ____
   Septic Tank ____ Barnyard ____
   Leaching Pit ____ Manure Pile ____
3. Well furnishes water for human consumption? Yes X No ____
4. Date well completed August 22, 1985
5. Permanent Pump Installed? Yes X Date ____ No ____
   Manufacturer R.J. Type subm Location in well
   Capacity 40 gpm. Depth of Setting 40 Ft.
6. Well Top Sealed? Yes X No ____ Type lead
7. Pitless Adapter Installed? Yes X No ____
   Manufacturer Baker Model Number ____
   How attached to casing? threaded
8. Well Disinfected? Yes X No ____
9. Pump and Equipment Disinfected? Yes X No ____
10. Pressure Tank Size ____ gal. Type ____
    Location ____
11. Water Sample Submitted? Yes ____ No ____

REMARKS: County #23358

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Dan Christiansen

10. Property owner SOUTH BLUFF C.C. Well No. 2821
    Address R.R.#1 Peru, IL
    Driller S. Dean Albrecht License No. 102-120
11. Permit No. 119609 Date August 13, 1985
12. Water from sand (Formation) 13. County LaSalle
    at depth 33 to 41 ft.
    Sec. 28 SE
    Twp. 33N
    Rge. 1E
    Elev. ____
14. Screen: Diam. 4 in.
    Length: 4 ft. Slot 20



SHOW LOCATION IN SECTION PLAT
SE SE NW
(Commercial Operation)

15. Casing and Liner Pipe

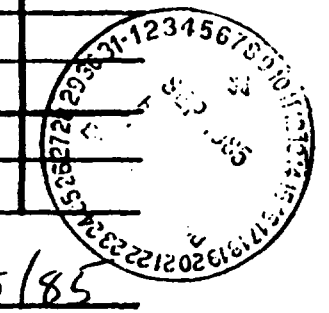
Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	steel	0	34

16. Size Hole below casing: 5 in.
17. Static level 12 ft. below casing top which is 1½ ft. above ground level. Pumping level ____ ft. when pumping at 40 gpm for 2 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
dirt	4	4
yellow clay	8	12
gray clay	11	33
gravel	8	41

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGN Gwen Ruck DATE 9/5/85



IDPH 4.065
1/74 KNB-1

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug ____. Bored X. Hole Diam. 24 in. Depth 30 ft.
   Curb material Cement. Buried Slab: Yes X No ____
   b. Driven ____. Drive Pipe Diam. ____ in. Depth ____ ft.
   c. Drilled ____. Finished in Drift ____. In Rock ____.
   Tubular ____. Gravel Packed ____.
   d. Grout:

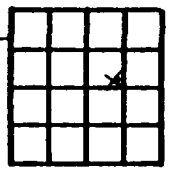
(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:
   Building NONE Ft. Seepage Tile Field NONE
   Cess Pool ____ Sewer (non Cast iron) ____
   Privy ____ Sewer (Cast iron) ____
   Septic Tank NONE Barnyard ____
   Leaching Pit ____ Manure Pile ____
3. Well furnishes water for human consumption? Yes X No ____
4. Date well completed 8-2-82
5. Permanent Pump Installed? Yes ____ Date ____ No X
   Manufacturer ____ Type ____ Location ____
   Capacity ____ gpm. Depth of Setting ____ Ft.
6. Well Top Sealed? Yes ____ No ____ Type ____
7. Pitless Adapter Installed? Yes X No ____
   Manufacturer BAKER Model Number BRASSY
   How attached to casing? NUT & GASKET
8. Well Disinfected? Yes X No ____
9. Pump and Equipment Disinfected? Yes ____ No ____
10. Pressure Tank Size ____ gal. Type ____
    Location ____
11. Water Sample Submitted? Yes ____ No X

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner LARRY BOYD Well No. 1
    Address R.R. PERU
    Driller ROBERT SCHERF License No. 092-0342
11. Permit No. 104201 Date 7-28-82
12. Water from GRAVEL (Formation) 13. County LA SALLE
    at depth 20 to 21 ft.
14. Screen: Diam. ____ in.
    Length: ____ ft. Slot ____
    Sec. 22.3c
    Twp. 33N
    Rge. 1E
    Elev. ____



SHOW LOCATION IN SECTION PLAT
SE SW NE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
24	Cement	10	30

16. Size Hole below casing: ____ in.
17. Static level 16 ft. below casing top which is 1 ft. above ground level. Pumping level ____ ft. when pumping at ____ gpm for ____ hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
YELLOW CLAY	15	15
BLUE CLAY	5	20
GRAVEL	1	21
SHALE	9	30

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Robert Scherf DATE 11-21-82

OPH 4.065
1/74 – KNB-1
(59671—12½M Sets—6-74)

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, ROOM 516, STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL / WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam.____in. Depth____ft.
   Curb material____. Buried Slab: Yes____No____
   b. Driven____. Drive Pipe Diam.____in. Depth____ft.
   c. Drilled X. Finished in Drift X. In Rock____.
   Tubular X. Gravel Packed____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
Puddled clay	0	50

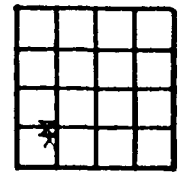
2. Distance to Nearest:
   Building 10 Ft. Seepage Tile Field____
   Cess Pool____ Sewer (non Cast iron)____
   Privy____ Sewer (Cast iron)____
   Septic Tank____ Barnyard____
   Leaching Pit____ Manure Pile____
3. Is water from this well to be used for human consumption?
   Yes X No____
4. Date well completed April 6, 1972
5. Permanent Pump Installed? Yes X No____
   Manufacturer Aermotor Type submersible
   Capacity ½ hp gpm. Depth of setting 42 ft.
6. Well Top Sealed? Yes X No____
7. Pitless Adaptor Installed? Yes X No____
8. Well Disinfected? Yes X No____
9. Water Sample Submitted? Yes____ No X

REMARKS:

IDPH 4.065
1(

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Marquette Cement Co Well No. 1209
    Address Oglesby, Ill.
    Driller S. Dean Albrecht License No. 92-350
11. Permit No. NF 13926 Date March 21, 1972
12. Water from gravel (Formation) 13. County LaSalle
    at depth 34 to 55 ft.
14. Screen: Diam. 4 in.
    Length: 4 ft. Slot 15
    Sec. 31
    Twp. 33N
    Rge. 1E
    Elev.____



SHOW LOCATION IN SECTION PLAT
120'S 450'E
NW/c NE SW SW

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
6	steel pipe	0	50

16. Size Hole below casing: 6 in.
17. Static level 13 ft. below casing top which is 1½ ft. above ground level. Pumping level 14 ft. when pumping at 25 gpm for 25 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Fill mix	10	10
Gray clay	24	34
gravel	21	55

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED S. Dean Albrecht DATE August, 1972
apa

White Copy - Ill. Dept. Public Health
Yellow Copy - Well Contractor
Blue Copy - Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam. 5 in. Depth 66½ ft.
   Curb material _____. Buried Slab: Yes_____ No_____
   b. Driven _____. Drive Pipe Diam. _____in. Depth _____ft.
   c. Drilled X. Finished in Drift X. In Rock _____.
   Tubular _____. Gravel Packed _____.
   d. Grout:

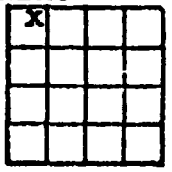
(KIND)	FROM (Ft.)	TO (Ft.)
puddled clay	0	62

2. Distance to Nearest:
   Building _____ Ft. Seepage Tile Field _____
   Cess Pool _____ Sewer (non Cast iron) _____
   Privy _____ Sewer (Cast iron) _____
   Septic Tank _____ Barnyard _____
   Leaching Pit _____ Manure Pile _____
3. Well furnishes water for human consumption? Yes X No____
4. Date well completed August 4, 1977
5. Permanent Pump Installed? Yes___ Date _____ No X
   Manufacturer _____ Type _____ Location _____
   Capacity_____gpm. Depth of Setting _____ Ft.
6. Well Top Sealed? Yes X No____ Type lead
7. Pitless Adapter Installed? Yes X No_____
   Manufacturer Baker Model Number _____
   How attached to casing? clamp-on
8. Well Disinfected? Yes X No _____
9. Pump and Equipment Disinfected? Yes X No _____
10. Pressure Tank Size_____gal. Type _____
    Location _____
11. Water Sample Submitted? Yes_____ No X

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

9.
10. Property owner James Giardano Well No. 1950
    Address Peru, Illinois
    Driller S.D. Albrecht License No. 102-120
11. Permit No. 62983 Date _____
12. Water from gravel (Formation)
    at depth 62½ to 66 ft.
13. County LaSalle
    Sec. 34 NW
    Twp. 33N
    Rge. 1E
    Elev. _____
14. Screen: Diam. 4 in.
    Length: 4 ft. Slot 25



SHOW LOCATION IN SECTION PLAT
NE NW NW

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	steel pipe	0	62

16. Size Hole below casing: 5 in.
17. Static level 42 ft. below casing top which is _____ ft. above ground level. Pumping level 63 ft. when pumping at 10 gpm for 2 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
[illegible]		

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED S. Deane Albrecht DATE Oct 10 1977
agt

IDPH 4.065
1/74 – KNB-1

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam. 5 in. Depth 80 ft.
   Curb material _____. Buried Slab: Yes_____ No_____
   b. Driven _____. Drive Pipe Diam. _____ in. Depth _____ ft.
   c. Drilled x. Finished in Drift _____. In Rock _____.
   Tubular _____. Gravel Packed x.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
p-gravel	0	72

2. Distance to Nearest:
   Building _____ Ft. Seepage Tile Field _____
   Cess Pool _____ Sewer (non Cast iron) _____
   Privy _____ Sewer (Cast iron) _____
   Septic Tank _____ Barnyard _____
   Leaching Pit _____ Manure Pile _____
3. Well furnishes water for human consumption? Yes X No____
4. Date well completed May 24, '82
5. Permanent Pump Installed? Yes X Date 6-10-82 No____
   Manufacturer Goulds Type sub. Location well
   Capacity 10 gpm. Depth of Setting 60 Ft.
6. Well Top Sealed? Yes X No____ Type capped
7. Pitless Adapter Installed? Yes X No_____
   Manufacturer Williams Model Number _____
   How attached to casing? bolted
8. Well Disinfected? Yes x No_____
9. Pump and Equipment Disinfected? Yes x No_____
10. Pressure Tank Size 80 gal. Type Well-x-trol
    Location Pit
11. Water Sample Submitted? Yes_____ No x

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Harry Pappas Well No. _____
    Address RFD 1 Lynnwood Sub./ Peru, Il.
    Driller Mendota Well & Pump License No. 102-84
11. Permit No. 103396 Date 5-10-82
12. Water from Sand Gravel (Formation)
    at depth 66 to 80 ft.
13. County La Salle
    Sec. 34 SF
    Twp. 33N
    Rge. 1E
    Elev. _____
14. Screen: Diam. 4 in.
    Length: 8 ft. Slot 12

SHOW LOCATION IN SECTION PLAT
NE SE NW

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	# 200 PVC	0	72

16. Size Hole below casing: 4½ in.
17. Static level _____ ft. below casing top which is 1 ft. above ground level. Pumping level _____ ft. when pumping at _____ gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	3	3
Clay	62	65
Sand Gravel	15	80

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED David F. Talley DATE Nov. 19, '82

Ill. 4.065
1/74 – KNB-1
(59571—12½M Sets—6-74)

White Copy - Ill. Dept. blic Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQ TED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam. 5 in. Depth 55 ft.
   Curb material _____. Buried Slab: Yes_____ No_____
   b. Driven_____. Drive Pipe Diam._____in. Depth_____ft.
   c. Drilled X. Finished in Drift X. In Rock_____.
   Tubular_____. Gravel Packed_____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
puddled clay	0	41

2. Distance to Nearest:
   Building _____ Ft. Seepage Tile Field _____
   Cess Pool_____ Sewer (non Cast iron)_____
   Privy _____ Sewer (Cast iron) _____
   Septic Tank _____ Barnyard _____
   Leaching Pit _____ Manure Pile _____
3. Well furnishes water for human consumption? Yes X No_____
4. Date well completed December 12, 1977
5. Permanent Pump Installed? Yes X Date _____ No____
   Manufacturer Goulds Type ½hp. Location in well
   Capacity_____gpm. Depth of Setting 54 Ft.
6. Well Top Sealed? Yes X No____Type Lead
7. Pitless Adapter Installed? Yes X No_____
   Manufacturer Baker Model Number _____
   How attached to casing? clamp on
8. Well Disinfected? Yes X No_____
9. Pump and Equipment Disinfected? Yes X No_____
10. Pressure Tank Size_____gal. Type _____
    Location _____
11. Water Sample Submitted? Yes_____ No XX

REMARKS:

IDPH 4.065
1/74 – KNB-1

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Dale Sell Well No. 1006
    Address LaSalle, Illinois
    Driller S.D. Albrecht License No. 102-120
11. Permit No. 70249 Date _____
12. Water from sand & gravel (Formation) 13. County LASALLE
    at depth 30 to 48 ft. Sec. 34 ¼ XX
    14. Screen: Diam. 4 in. Twp. 33N
    Length: 4 ft. Slot 15 Rge. 1E
    Elev. _____

SHOW LOCATION IN SECTION PLAT
SE NW NW

15. Casing and Liner Pipe

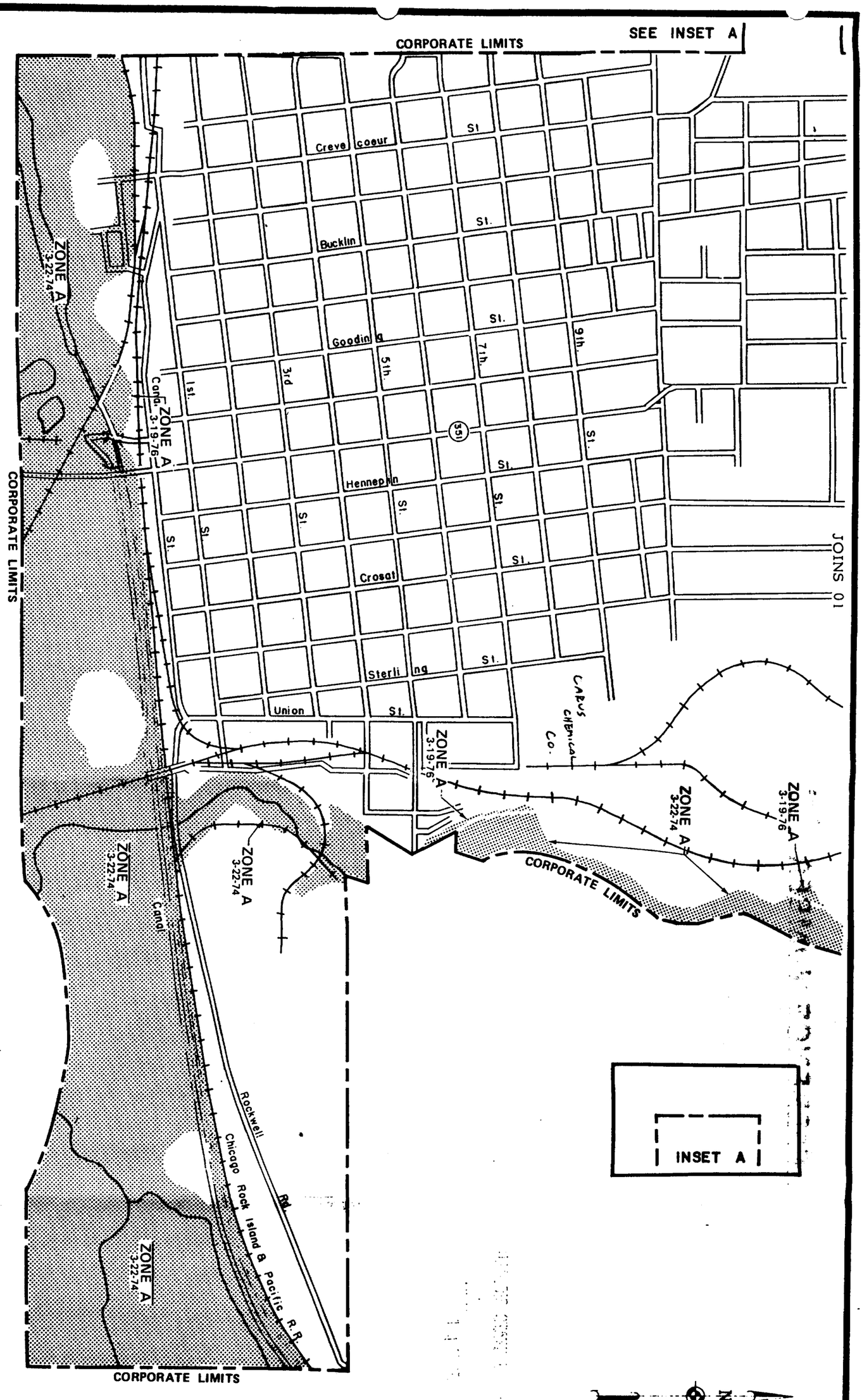
Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	steel pipe	0	41

16. Size Hole below casing: 5 in.
17. Static level 40 ft. below casing top which is _____ ft. above ground level. Pumping level _____ ft. when pumping at 10 gpm for ½ hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
brown clay	20	20
light brown clay	6	26
gray yellow & black clay	4	30
brown sand & gravel	18	48
gray brown sand	2	50
gray clay	1	51
granite	2	53
clay	2	55

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED S D Albrecht vlm DATE Jan 11 1978



02

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF LASALLE, IL
(LA SALLE CO.)

APPROXIMATE SCALE
500 0 1000 2000 3000 FEET

FIA FLOOD HAZARD BOUNDARY MAP
No. H 02

Map Revised
MARCH 19, 1976

MAP
HH 1.2: 17040/

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam.____in. Depth____ft.
   Curb material____. Buried Slab: Yes____No____
   b. Driven____. Drive Pipe Diam.____in. Depth____ft.
   c. Drilled x. Finished in Drift x. In Rock____.
   Tubular____. Gravel Packed yes.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
pea gravel	61	72
cuttings	0	61

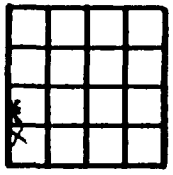
2. Distance to Nearest:
   Building 84 Ft. — Seepage Tile Field____
   Cess Pool____ — Sewer (non Cast iron)____
   Privy____ — Sewer (Cast iron)____
   Septic Tank 200 — Barnyard____
   Leaching Pit____ — Manure Pile____
3. Well furnishes water for human consumption? Yes x No____
4. Date well completed October 24, 1984
5. Permanent Pump Installed? Yes x Date Oct. 25, 1984 No____
   Manufacturer Red Jacket Type Sub Location Well
   Capacity 10 gpm. Depth of Setting 65 Ft.
6. Well Top Sealed? Yes x No____ Type capped
7. Pitless Adapter Installed? Yes x No____
   Manufacturer Williams Model Number B 50 AGW
   How attached to casing? Bolted
8. Well Disinfected? Yes xx No____
9. Pump and Equipment Disinfected? Yes x No____
10. Pressure Tank Size____gal. Type owners
    Location basement
11. Water Sample Submitted? Yes____ No x

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

ROBERT MOSS

10. Property owner Robert Hosbach Well No.____
    Address R.F.D., Oglesby, Illinois 61348
    Driller David F. Tolley License No. 102-002953
11. Permit No. 115266 Date October 11, 1984
12. Water from sand & gravel Formation
    at depth 64 to 71 ft.
13. County La Salle
    Sec. 35.8b
    Twp. 33N
    Rge. 1E
    Elev.____
14. Screen: Diam. 5 in.
    Length: 4 ft. Slot 10



SHOW LOCATION IN SECTION PLAT
NW SW SW

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	SDR 21 PVC	0	77

16. Size Hole below casing: 5 in.
17. Static level 20 ft. below casing top which is 1 ft. above ground level. Pumping level 47 ft. when pumping at 10 gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
top soil	2	2
clay	62	64
sand and gravel	7	71
shale	1	72

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGN David F. Tolley DATE Oct. 29, 1984

IDPH 4.065
1/74 – KNB-1

2

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam. 5 in. Depth 38½ ft.
   Curb material _____. Buried Slab: Yes_____ No_____
   b. Driven _____. Drive Pipe Diam. _____ in. Depth _____ ft.
   c. Drilled X. Finished in Drift X. In Rock _____.
   Tubular _____. Gravel Packed _____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
puddled		
½ clay	0	35

2. Distance to Nearest:
   Building _____ Ft. Seepage Tile Field _____
   Cess Pool _____ Sewer (non Cast iron) _____
   Privy _____ Sewer (Cast iron) _____
   Septic Tank _____ Barnyard _____
   Leaching Pit _____ Manure Pile _____
3. Well furnishes water for human consumption? Yes X No____
4. Date well completed July 20, 1976
5. Permanent Pump Installed? Yes X Date _____ No____
   Manufacturer Red Jacket Type sub Location well
   Capacity ½ hp gpm. Depth of Setting 37 Ft.
6. Well Top Sealed? Yes X No____ Type lead
7. Pitless Adapter Installed? Yes____ No X
   Manufacturer _____ Model Number _____
   How attached to casing? _____
8. Well Disinfected? Yes X No____
9. Pump and Equipment Disinfected? Yes X No____
10. Pressure Tank Size____ gal. Type _____
    Location _____
11. Water Sample Submitted? Yes____ No X

REMARKS:

sand	½	25½
red clay	3½	29
gravel	1½	30½
gray clay	5	35½
gravel	3	38½

IDPH 4.065
1/74 – KNB-1

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Pat Malone Well No. _____
    Address LaSalle, Illinois
    Driller S. Dean Albrecht License No. 102-120
11. Permit No. 48977 Date June 25, 1976
12. Water from gravel (Formation) 13. County LaSalle
    at depth 35½ to 38½ ft. Sec. 6-16
14. Screen: Diam. 5 in. Twp. 33N
    Length: 3½ ft. Slot 4 Rge. 1E
    Elev. _____

SHOW LOCATION IN SECTION PLAT
NE NE NE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	steel pipe	0	35

16. Size Hole below casing: 5 in.
17. Static level 8 ft. below casing top which is 1½ ft. above ground level. Pumping level 30 ft. when pumping at 10 gpm for 2 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
top soil	5	5
yellow gravel	1	6
yellow clay	3	9
yellow gravel	1	10
gray clay	3½	13½
gravel	1½	15
gray clay	1	16
redish clay	7	23
gray clay	2	25

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED [signature] DATE 6-30-76

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam. 5 in. Depth 159 ft.
   Curb material _____. Buried Slab: Yes____ No____
   b. Driven _____. Drive Pipe Diam. ____ in. Depth ____ ft.
   c. Drilled X. Finished in Drift _____. In Rock X.
   Tubular X. Gravel Packed _____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
Puddled		
Clay	0	68

2. Distance to Nearest:
   Building _____ Ft. Seepage Tile Field _____
   Cess Pool _____ Sewer (non Cast iron) _____
   Privy _____ Sewer (Cast iron) _____
   Septic Tank _____ Barnyard _____
   Leaching Pit _____ Manure Pile _____
3. Well furnishes water for human consumption? Yes X No____
4. Date well completed February 7, 1983
5. Permanent Pump Installed? Yes____ Date _____ No X
   Manufacturer _____ Type _____ Location _____
   Capacity _____ gpm. Depth of Setting _____ Ft.
6. Well Top Sealed? Yes____ No____ Type _____
7. Pitless Adapter Installed? Yes____ No____
   Manufacturer _____ Model Number _____
   How attached to casing? _____
8. Well Disinfected? Yes X No____
9. Pump and Equipment Disinfected? Yes X No____
10. Pressure Tank Size ____ gal. Type _____
    Location _____
11. Water Sample Submitted? Yes____ No____

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner FOREST LAWN CEMETARY (Cemetary) Well No. 2648M
    Address LaSalle, IL
    Driller S. Dean Albrecht License No. 102-120
11. Permit No. 106063 Date January 20, 1983
12. Water from rock (Formation) 13. County LaSalle
    at depth 120 to 159 ft. Sec. 12.3b
14. Screen: Diam. ____ in. Twp. 33N
    Length: ____ ft. Slot _____ Rge. 1E
    Elev. ____

SHOW LOCATION IN SECTION PLAT
NE SW SE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Steel	0	68

16. Size Hole below casing: 5 in. (cemetary)
17. Static level 60 ft. below casing top which is 1½ ft. above ground level. Pumping level ____ ft. when pumping at 25 gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
clay	1	1
sandstone St. Pete	11	12
tan limestone	43	55
gray limestone	65	120
gray limestone w/cracks	40	160

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED S. Dean Albrecht DATE 2/23/83
apa

IDPH 4.065
3/74 – KNB-1
59671—12½M Sets—6-74)

W – copy –
Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam. 5 in. Depth 150 ft.
   Curb material _____. Buried Slab: Yes_____ No_____
   b. Driven _____. Drive Pipe Diam. _____ in. Depth _____ ft.
   c. Drilled X. Finished in Drift _____. In Rock _____.
   Tubular _____. Gravel Packed _____.
   d. Grout:

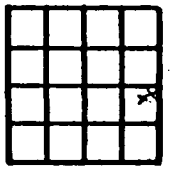
(KIND)	FROM (Ft.)	TO (Ft.)
Puddled Clay	0	88

2. Distance to Nearest:
   Building _____ Ft. Seepage Tile Field _____
   Cess Pool _____ Sewer (non Cast iron) _____
   Privy _____ Sewer (Cast iron) _____
   Septic Tank _____ Barnyard _____
   Leaching Pit _____ Manure Pile _____
3. Well furnishes water for human consumption? Yes X No____
4. Date well completed May 27
5. Permanent Pump Installed? Yes X Date _____ No____
   Manufacturer Red Jacket Type Sumb Location In Well
   Capacity 1/2 gpm. Depth of Setting 105 Ft.
6. Well Top Sealed? Yes X No____ Type _____
7. Pitless Adapter Installed? Yes_____ No X
   Manufacturer _____ Model Number _____
   How attached to casing? _____
8. Well Disinfected? Yes X No _____
9. Pump and Equipment Disinfected? Yes_____ No _____
10. Pressure Tank Size_____ gal. Type _____
    Location _____
11. Water Sample Submitted? Yes_____ No _____

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner LaSalle Drive In Well No. 2420
    Address P.O. BOx 465 LaSalle, Il.
    Driller S. Dean Albrecht License No. 102-120
11. Permit No. 93984 Date May 21, 1980
12. Water from Limestone (Formation) 13. County LaSalle
    at depth 10 to 150 ft. Sec. 12
    14. Screen: Diam. _____ in. Twp. 33N
    Length: _____ ft. Slot _____ Rge. 1E
    Elev. _____



SHOW LOCATION IN SECTION PLAT
NE NE SE

15. Casing and Liner Pipe

Diam. (In.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Steel	0	88

16. Size Hole below casing: 5 in. (commercial operation)
17. Static level 50 ft. below casing top which is 1½ ft. above ground level. Pumping level 120 ft. when pumping at 20 gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	5	5
Clay	5	10
Limestone w/streaks of Shale	140	150

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED S. Dean Albrecht apa DATE June 20, 1980

IDPH 4.065
./74 – KNB-1
(59671—12½M Sets—6-74) 5

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO [...]LERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored X. Hole Diam. 24 in. Depth 31 ft.
   Curb material Concrete. Buried Slab: Yes X No ____
   b. Driven ____. Drive Pipe Diam. ____ in. Depth ____ ft.
   c. Drilled ____. Finished in Drift ____. In Rock ____.
   Tubular ____. Gravel Packed ____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:
   Building 20 Ft. Seepage Tile Field 95
   Cess Pool ____ Sewer (non Cast iron) ____
   Privy ____ Sewer (Cast iron) ____
   Septic Tank 84 Barnyard ____
   Leaching Pit ____ Manure Pile ____
3. Well furnishes water for human consumption? Yes X No ____
4. Date well completed 11-7-85
5. Permanent Pump Installed? Yes X Date 11-11-86 No ____
   Manufacturer [illegible] Type SUB Location WELL
   Capacity 10 gpm. Depth of Setting 28 Ft.
6. Well Top Sealed? Yes ____ No ____ Type ____
7. Pitless Adapter Installed? Yes X No ____
   Manufacturer BAKER Model Number [illegible]
   How attached to casing? [illegible]
8. Well Disinfected? Yes X No ____
9. Pump and Equipment Disinfected? Yes X No ____
10. Pressure Tank Size 42 gal. Type [illegible]
    Location BAST
11. Water Sample Submitted? Yes X No ____

REMARKS: County #23395

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner STANLEY MROWICKI Well No. 2
    Address 8007 PULASKI PARK
    Driller ROBERT SCHERF License No. 092-03425
11. Permit No. 12[illegible]0 Date 10-30-85
12. Water from GRAVEL (Formation) at depth 15 to 20 ft.
13. County ~~[illegible]~~ La Salle
    Sec. 9
    Twp. 33N
    Rge. 1E
    Elev. ____
    SHOW LOCATION IN SECTION PLAT: SE SW
14. Screen: Diam. ____ in. Length: ____ ft. Slot ____
15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
24	Concrete	10	31

16. Size Hole below casing: ____ in.
17. Static level 4 ft. below casing top which is 1 ft. above ground level. Pumping level ____ ft. when pumping at ____ gpm for ____ hours.

18.

FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
TOP SOIL	1	1
YELLOW CLAY	14	15
GRAVEL	5	20
SHALE	11	31

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED [signature] DATE 1-5-86

IDPH 4.065
1/74 – KNB-1

REFERENCE NUMBER 02

Site Representative Interview

A site representative interview was held on May 22, 1991 between Robert Casper of the IEPA and Ronald W. Swietek and Horst R. Adolf of Carus Chemical Co. During the interview and later facility tour the site representatives gave background information of the sites' history and operations as well as answering any questions asked of them. Some of that information has been used in this report.

REFERENCE NUMBER 04

Illinois Department of Conservation
life and land together

LINCOLN TOWER PLAZA • 524 SOUTH SECOND STREET • SPRINGFIELD 62701-1787
CHICAGO OFFICE • ROOM 4-300 • 100 WEST RANDOLPH 60601

BRENT MANNING, DIRECTOR

June 12, 1991

Mr. Robert Casper
LPC/RPMS
IL EPA
P.O. Box 19276
Springfield, IL 62794-9276

Re: ILD #005 477 666
Carus Chemical Co.
LaSalle Co.

Dear Mr. Casper:

In reference to your May 28, 1991 letter concerning the above noted CERCLIS Site in LaSAlle County the Department has determined there are no sensitive areas (form attached) within the 1 mile radius of the site.

Relative to the water path shown on the attached map the DuPue Lake Conservation Area is located at the lower end in Sections 1 and 2.

The Department cannot speak for the USFWS relative to federally endangered species although the Natural Heritage Database contains both federal and state-listed species known to occur in Illinois.

Thank you for the opportunity to comment.

Sincerely,

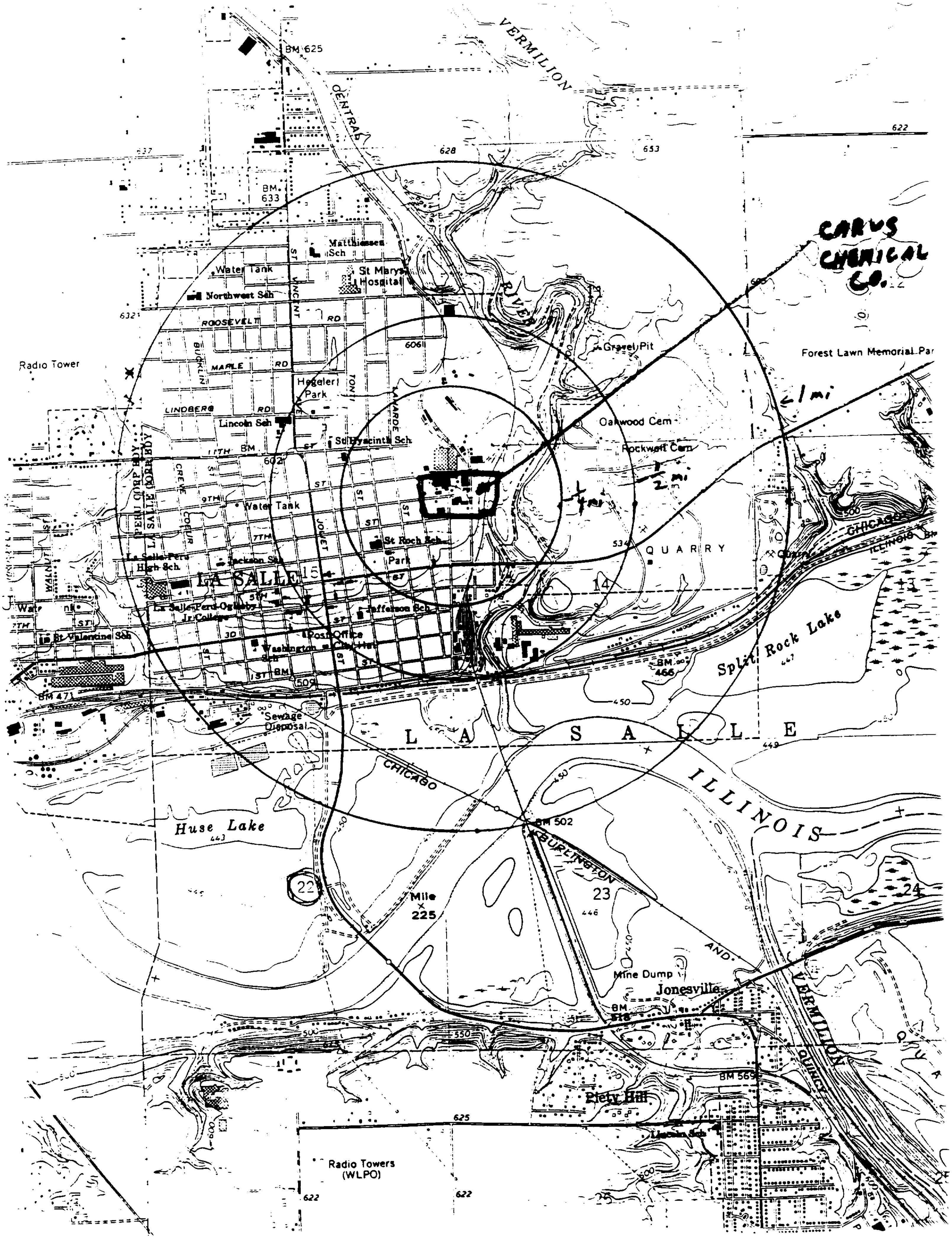
Richard W. Lutz

Richard W. Lutz, Supervisor
Impact Analysis Section
Division of Planning

RECEIVED
JUN 14 1991
IEPA/DLPC

RWL:ts

Att: site and water path maps
sensitive areas form


CARUS CHEMICAL CO.
<1 mi
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VERMILION
CENTRAL
RIVER
LA SALLE
ILLINOIS
CHICAGO
BURLINGTON
AND
QUINCY
Matthiessen Sch
St Marys Hospital
Water Tank
Northwest Sch
ROOSEVELT
RD
MAPLE
BUCKLIN
Hegeler Park
LINDBERG
Lincoln Sch
St Hyacinth Sch
11TH
9TH
7TH
Water Tank
St Roch Sch
Park
Jackson Sch
La Salle-Peru High Sch
La Salle-Peru-Oglesby Jr College
Jefferson Sch
Post Office
Washington Sch
City Hall
St Valentine Sch
Sewage Disposal
Radio Tower
Gravel Pit
Forest Lawn Memorial Par
Oakwood Cem
Rockwell Cem
QUARRY
Quarry
Split Rock Lake
Huse Lake
Mile 225
Mine Dump
Jonesville
Piety Hill
Lincoln Sch
Radio Towers (WLPO)
BM 625
BM 633
BM 602
BM 509
BM 471
BM 466
BM 502
BM 518
BM 569
622
628
637
653
632
606
534
450
449
443
446
447
500
550
625
14
15
22
23
24


15 Mi.
ILLINOIS
RIVER
Depue
Hollowayville
L E E T O W N

DEPARTMENT OF CONSERVATION IDENTIFICATION OF ENVIRONMENTAL SENSITIVE AREAS

ILD# 005477666

— = N/A (NONE IN AREA)

SENSITIVE ENVIRONMENTS	TARGET DISTANCE CATEGORIES: On-site	0-1/4 mile	1/4-1/2 mile	stream milage
I. Critical habitat for Federally designated or proposed endangered or threatened species	—	—	—	—
II. Habitat known to be used by Federally designated or proposed endangered or threatened species	—	—	—	—
III. State wildlife refuge	—	—	—	—
IV. Spawning areas critical for the maintenance of fish/ shellfish species within a river system	—	—	—	—
V. Terrestrial areas utilized by large or dense aggregations of verbebrate animals for breeding	—	—	—	—
VI. Habitat known to be used by State designated or threatened species	—	—	—	—
VII. Habitat known to be used by a species under review as to its Federal endangered or threatened status	—	—	—	—
VIII. State lands designated for wildlife or game management	—	—	—	DePue Lake Cons. Area *
IX. State designated natural area	—	—	—	—
X. Particular areas, relatively small in size, important to the maintenance of unique biotic communities	—	—	—	—

If any of the sensitive areas identified above exist within the designated target distance limits, please put an asterisk (*) in the appropriate column.

carus
CHEMICAL COMPANY
DIVISION OF CARUS CORPORATION

1500 EIGHTH STREET • LA SALLE, ILLINOIS 61301, U.S.A.
Tel. (815) 223-1500 • Cable Code: CARCHEMCO
Telex 404452 CARUSCORP LASAL

REFERENCE NUMBER 05

5 April 1984

Illinois EPA
4302 North Main Street
Rockford, IL 61103
Attn: Mr. Jack Adams

Dear Jack:

This letter is to confirm our telephone conversation of 3 April 1984 concerning the discharge of mother liquor containing potassium permanganate into our south lagoon with subsequent discharge of 5 to 10 lbs of manganese to the Little Vermilion River.

The events leading to the discharge of mother liquor to our south lagoon were as follows:

1. Based on our sewer monitoring station one of our pump packings failed at 8:30 AM on 1 April 1984 allowing the discharge of permanganate mother liquor into the hot well tank of our crystallizer cooling water system. Under normal condition the sewer monitor would activate the telephone system and upon answering the telephone inform the supervisor that there is an abnormal condition at the inflow to the south lagoon. For some reason this automatic transfer system did not function and no one was aware of the problem.

2. At 1:45 PM one of our employees who was driving on Rt. 6 informed us that there was a discharge of potassium permanganate from the south lagoon overflow into the Little Vermilion River. The supervisor on duty immediately checked the plant operation and detected the failure of the pump packing gland. The discharge stream was immediately changed to the plant mother liquor system.

3. The south lagoon was inspected at 2:00 PM by the supervisor and myself and a sample of the effluent was taken for analysis. Based on the color of the sample it was decided to stop plant operation, stop the addition of the cooling water stream to the south lagoon, and to plug up the outflow from the south lagoon to the Little Vermilion River.

4. The south lagoon overflow and emergency overflow pipe were plugged with blankets and the inflow into the Little Vermilion River was stopped completely by 3:15 PM.

5. The Laboratory Supervisor arrived at the plant around 2:30 PM and determined that the sewer monitoring system indicated the input of mother liquor into the south lagoon properly, but the telephone alarm system failed to activate the telephone.

   The Service Engineer for the telephone system was contacted and arrived at the plant at 4:00 PM. His analysis was that one of the drive belts for the tape drive unit was broken and therefore did not activate the telephone. The tape drive unit was replaced.

6. The south lagoon outflow was analysed and the result was 14 ppm Mn. The outflow from the south lagoon was 750 GPM before the outflow was stopped which calculated to a maximum Mn input of 5.25 lbs per hour. Report from one other employee who was driving over Rt. 6 around 1:30 PM indicated that the outflow at this time was colorless. It was therefore assumed that the discharge of Mn at a concentration of less than 14 ppm started shortly after 1:30 PM and continued until 3:15 PM. Based on this the maximum time period was 1-3/4 hours. This calculates to a maximum input of 9.2 lbs of Mn. The actual input is less since the concentration was lower at the beginning of the discharge.

7. Starting at 4:30 PM small amounts of sodium bisulfite were spread over the contaminated water from a rubber raft to reduce the potassium permangate to MnO_2. This was stopped at 6:00 PM.

8. On 2 April 1984 at 8:00 AM small amounts of manganese sulfate were spread over the lagoon surface from a rubber raft and later from a boat with a motor to provide mixing. The addition was kept at a very small amount to prevent overtreatment. The treatment was continued until 3:30 PM at which time the color of the treated water was a very slight pink, indicating less than 1 ppm Mn. The overflow pipe was opened up and discharge to the Little Vermilion River resumed at 5:30 PM. The Mn content was .89 ppm at 7:00 PM on 2 April and .75 ppm at 7:00 AM on 3 April. Plant operation was resumed at 8:00 PM on 2 April 1984.

Corrective Actions:

1. A pumping system has been installed to pump a continuous stream of water from the crystallizer hot well tank to a visible discharge point near an operator station. This allows close observation by the process operators and a change of color can be detected early.

2. The telephone alarm system will be inspected and tested on a weekly basis.

3. A red revolving light and an audible alarm will be installed at the sewer monitoring station. The alarm system will be activated the same time the telephone system is activated. The red light will come on immediately and the audible alarm will be placed in operation 20 minutes later. This provides protection if for some reason the telephone system would not operate properly.

The action which was taken has been in correspondence with our BMP. Please contact me if you should have any other questions.

Sincerely,

Walter A. Moshage
Manufacturing Director

WAM/mb

EXHIBIT 3

REFERENCE NUMBER 06

CITY OF LASALLE

GENERAL WASTEWATER DISCHARGE PERMIT APPLICATION

Who should submit this Permit Application?

All Industrial Users, regardless of the amount discharged, who discharge or propose to discharge to the City of LaSalle Wastewater Treatment Plant. "Industrial User" is defined by City ordinance to mean a source of Indirect Discharge; that is, the introduction of pollutants into the City treatment works from any non-domestic source regulated under Section 307(b), (c) or (d) of the Clean Water Act.

In general, Industrial Users include any non-domestic User which discharges toxic pollutants (as defined Pursuant to Section 307 of the Act) or conventional pollutants in such amounts or concentrations as to Interfere with or Pass Through the City treatment works. Users in doubt as to whether they must apply for a General Wastewater Discharge Permit should contact the Superintendent of the Wastewater Treatment Plant for a determination.

When is this Application Due:

Existing Industrial Users (those connected to or discharging to the City treatment works must submit this Application by _____.)

New Industrial Users must submit this Application at least 90 days prior to discharging to the City treatment works.

This Application should be submitted along with a General Permit fee of $500.00 to:

Superintendent of Wastewater Treatment Plant
City of LaSalle
400 River Street
LaSalle, IL 61301

Make checks payable to "City of LaSalle Sewerage Fund"

Industrial Users subject to National Categorical Pretreatment Standards promulgated by USEPA pursuant to 40 CFR Part 403 must also apply for a Supplemental Wastewater Discharge Permit.

SECTION 1

A. Company Name CARUS CHEMICAL COMPANY, SPECIAL PRODUCTS DIVISION SIC Code No. 2819

B. Organization of Business (sole proprietorship, partnership or corporation)

1. If sole proprietorship, give name of owner and assumed name, if different from answer to 1 A above.

2. If partnership, give names of general partners and assumed name, if different than answer to 1 A above.

3. If corporation, give state in which incorporated and the name and address of registered agent.

State of Delaware C. T. Corporation Trust
1209 Orange Street
Wilmington, DE 19801

C. Business Address
Street 1500 Eighth Street

City LaSalle Zip Code 61301

D. Location of premise discharging wastewater:
Street 1500 Eighth Street

City LaSalle Zip Code 61301

E. Person completing this application (Authorized Representative of User):

Name Jack L. Kessler

Title Plant Engineer Phone 223-1500

F. Number of employees:

Number of employees: Total of 29 employed

G. Variation of operation:

Average annual days per week of plant operation Seven (7)

H. Time and duration of discharge to the sanitary sewer:

Discharge occurs from 8:00 A.M. to 8:00 A.M.

Circle the days of the week that discharge occurs: (S) (M) (T) (W) (TH) (F) (S)

SECTION III

RAW MATERIALS AND CHEMICALS

A. Give technical and common names of raw materials and chemicals that are used in the manufacturing or other processes which may be discharged to the sanitary sewer. In the case of proprietary compounds, provide manufacturer's name.

TECHNICAL NAME	COMMON NAME	MANUFACTURER'S NAME
Copper Sulfate	Copper sulfate	Copper sulfate Pentahydrate
Hydrochloric acid	Mariatic acid	Hydrochloric acid 20° Baume
Copper sulfate pentahydrate	Copper sulfate	Copper sulfate pentahydrate
Cerium Nitrate solution	Cerium nitrate solution	Cerium nitrate solution
Sulfuric acid	Sulfuric acid	Sulfuric acid
Sodium carbonate	Soda ash	Sodium carbonate
Sodium bicarbonate	Sodium bicarbonate	Sodium bicarbonate
Sodium hydroxide	Sodium hydroxide	Sodium hydroxide
Potassium permanganate	Potassium permanganate	Potassium Permanganate
Ethylene glycol	Ethylene glycol	Ethylene glycol

(cont.)

NATURE AND CONCENTRATION OF POLLUTANTS IN WASTEWATER DISCHARGE

B. Indicate which of the following pollutants are or may be present in the wastewaters discharged to the City treatment works by entering the appropriate code on the line provided:
(1) present or expected to be present in discahrge during normal operations;
(2) present or expected to be present in discharge on occasion due to batch or intermittent operations;
(3) pollutant used, stored or produced on premises but not present or expected to be present in discharge.

___ Bromodichloromethane
___ Bromoform
___ Bromomethane
___ Carbon Tetrachloride
___ Chloroethane
___ 2 Chloroethylvinyl ether
___ Chloroform
___ Chloromethane
___ Dibromomethane
___ Dichlorodifluoromethane
___ 1,1 Dichloroethane
___ 1,2 Dichloroethane
___ 1,1 Dichloroethylene
___ 1,2 Dichloroethylene, trans
___ 1,2 Dichloropropane
___ 1,3 Dichloro-1-propylene, cis
___ 1,3 Dichloro-1-propylene, trans
___ Methylene Chloride
___ 1,1,2,2 Tetrachloroethane
___ Tetrachloroethylene
___ 1,1,1 Trichloroethane
___ 1,1,2 Trichloroethane
___ Trichloroethylene
___ Vinyl Chloride
___ Benzene
___ Chlorobenzene
___ Ethylbenzene
___ Toluene
___ 1,2 Dichlorobenzene
___ 1,3 Dichlorobenzene

SECTION III

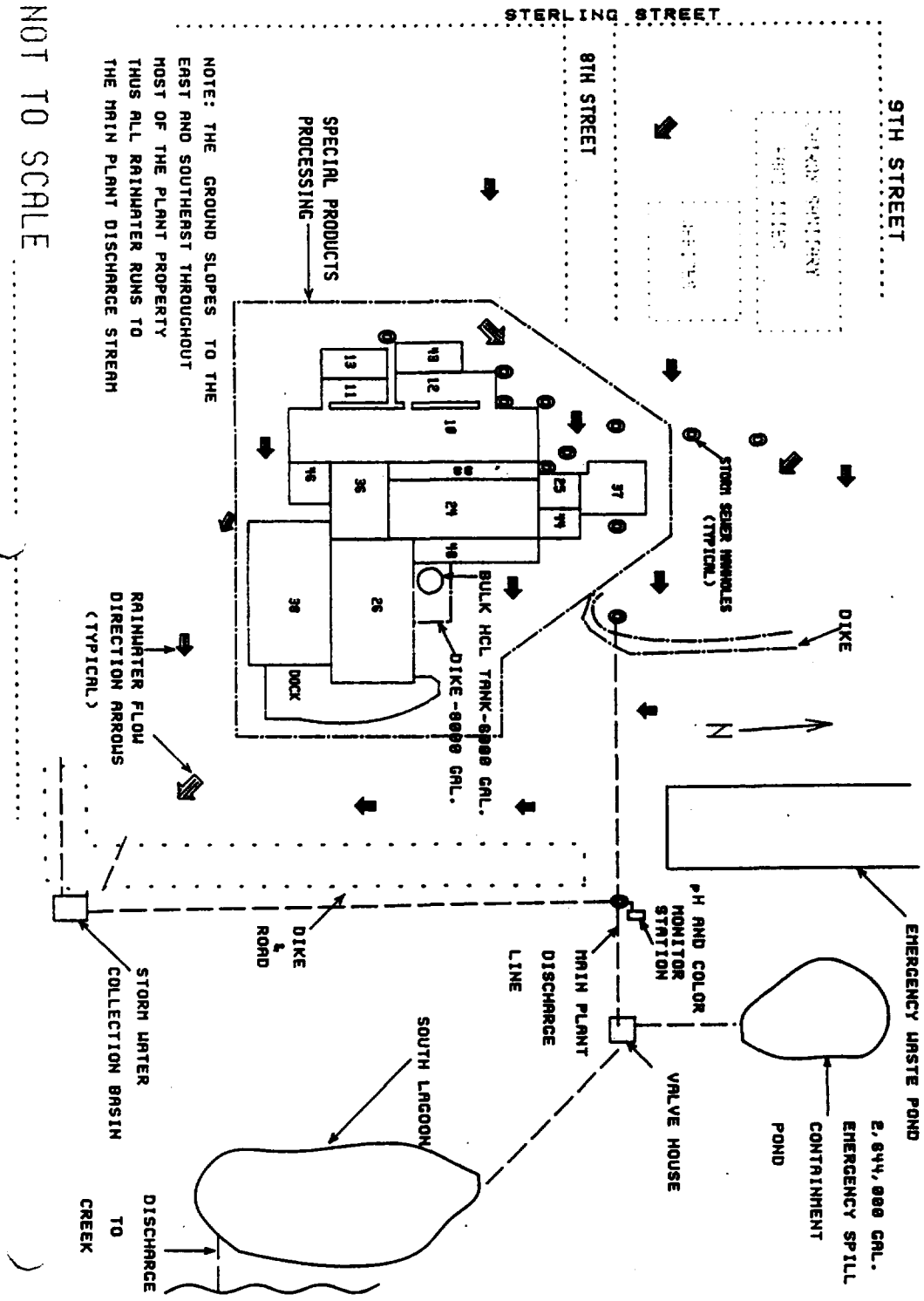
Raw Materials and Chemicals

Tech. Name	Common Name	Mfg. Name
Clarifloc A-210	Flocculation polymer	Clarifloc A-210
Active alumina	Aluminum oxide	Catapal B
Nitric acid	Nitric acid	Nitric acid
Manganese dioxide	Manganese dioxide	Manganese dioxide
Pollucite ore	Cesium bearing ore	Pollucite ore

SECTION VII

ACCIDENTAL SPILL CONTAINMENT DIAGRAM

Draw a line diagram showing facilities to provide for accidental spill containment. Give descriptions and locations of physical barriers (e.g. trenches, curbing, etc.), monitoring devices (e.g. pH meters, conductivity meters, etc.), capacity of spill containment and attach a brief description of operating procedures in case of a spill. If current spill containment drawings have been submitted to and accepted by the City, it is not necessary to provide this drawing.



RAW DATA WORKSHEET FOR STATE LAGOON REPORTS

24 HR COMPOSITES, 001 DISCHARGE	METHOD# STORRET# *	ANALYZED BY	DATE ANALYZED
DATE==========			
_____--DATE COLLECTED FROM			
_____--COLLECTED TO			
DISCHARGE DATA==========			
_____--pH OF COMPOSITE	150.1-00403		
_____--TEMPERATURE OF pH MEASUREMENT			
_____--COLOR			
_____--TEMPERATURE oC OF EFFLUENT			
DISCHARGE SUSPENDED SOLIDS ==========	160.2-00530		
_____--GROSS WT OF SUS SOLIDS IN GMS			
_____--TARE WT OF SUS SOLIDS IN GMS			
_____--SAMPLE VOLUME IN MLS			
DISCHARGE TOTAL MANGANESE ==========	243.1-01056		
_____--DILUTION FACTOR (1= UNDILUTED)			
_____--AA READ IN mg/L			
DISCHARGE NH3-N ==========	350.2-00610		
_____--SAMPLE VOLUME DISTILLED IN MLS			
_____--DISTILLATE VOLUMED TO IN MLS			
_____--ALIQUOT IN 50 MLS			
_____--O.D. @ 425 nm			
DISCHARGE OIL-FATS-GREASE==========	413.1-00556		
_____--GROSS WT OF FLASK IN GMS			
_____--TARE WT OF FLASK IN GMS			
_____--SAMPLE VOLUME IN MLS			
CITY WATER DATA==========	150.1-00403		
_____--pH.			
_____--TEMPERATURE OF pH MEASUREMENT	160.2-00530		
_____--TEMPERATURE OF SAMPLE oC			
CITY WATER SUSPENDED SOLIDS==========			
_____--GROSS WT FOR SUS SOLIDS IN GMS			
_____--TARE WT FOR SUS SOLIDS IN GMS	243.1-01056		
_____--SAMPLE VOLUME IN MLS			
CITY WATER TOTAL MANGANESE==========			
_____--DILUTION FACTOR (1= UNDILUTED)	350.2-00610		
_____--AA READ IN mg/L			
CITY WATER NH3-N==========			
_____--SAMPLE VOLUME DISTILLED IN MLS			
_____--DISTILLATE VOLUMED TO IN MLS			
_____--ALIQUOT IN 50 MLS			
_____--O.D. @ 425 nm			

COMMENTS: _____

*:EPA-600/4-79-020,"METHODS FOR CHEMICAL ANALYSIS OF WATER AND WASTE"

KEY: F7,\,S,RETURN TO STORE CALCULATED DATA IN REPORT FILE

KEY: F7,\,P,RETURN TO PRINT AND STORE INTERIM RESULTS

KEY: F7,\,F,RETURN WHEN ALL THE DAILY RESULTS ARE ON THE SHEET

Hazard Ranking System

Preliminary Score

Projected Score

CONFIDENTIAL

CONFIDENTIAL

HRS DOCUMENTATION RECORD
Carus Chemical Company - 06/29/92

1. Site Name: Carus Chemical Company
   (as entered in CERCLIS)

2. Site CERCLIS Number: ILD# 005477666

3. Site Reviewer: Robert L. Casper

4. Date: 5/07/92

5. Site Location: LaSalle/LaSalle, Illinois
   (City/County,State)

6. Congressional District: 14

7. Site Coordinates: Single

   Latitude: 41°20'05.0" Longitude: 089°05'00.0"

	Score
Ground Water Migration Pathway Score (Sgw)	100.00
Surface Water Migration Pathway Score (Ssw)	100.00
Soil Exposure Pathway Score (Ss)	100.00
Air Migration Pathway Score (Sa)	14.20

Site Score	86.89

NOTE

EPA uses the terms "facility," "site," and "release" interchangeably. The term "facility" is broadly defined in CERCLA to include any area where hazardous substances have "come to be located" (CERCLA Section 109(9)), and the listing process is not intended to define or reflect boundaries of such facilities or releases. Site names, and references to specific parcels or properties, are provided for general identification purposes only. Knowledge regarding the extent of sites will be refined as more information is developed during the RI/FS and even during implementation of the remedy.

WASTE QUANTITY

Carus Chemical Company - 06/29/92

1. WASTESTREAM QUANTITY SUMMARY TABLE, SOURCE: Soil

a. Wastestream ID	Soil
b. Hazardous Constituent Quantity (C) (lbs.)	0.00
c. Data Complete?	NO
d. Hazardous Wastestream Quantity (W) (lbs.)	0.00
e. Data Complete?	NO
f. Wastestream Quantity Value (W/5,000)	0.00E+00

Wastestream Constituent Hazardous Substances	Concent.	Units	Liquid	Qualifier
Arsenic	2.4E+02	ppm	NO	
Barium	8.2E+02	ppm	NO	
Cadmium	7.1E+01	ppm	NO	
Copper	4.1E+02	ppm	NO	
Lead	3.9E+04	ppm	NO	
Manganese	1.2E+04	ppm	NO	
Mercury	1.3E+00	ppm	NO	
PCBs	0.0E+00	ppb	NO	
Zinc	4.4E+04	ppm	NO	

a. Wastestream ID	
b. Hazardous Constituent Quantity (C) (lbs.)	0.00
c. Data Complete?	NO
d. Hazardous Wastestream Quantity (W) (lbs.)	0.00
e. Data Complete?	NO
f. Wastestream Quantity Value (W/5,000)	0.00E+00

WASTE QUANTITY

Carus Chemical Company - 06/29/92

2. SOURCE HAZARDOUS WASTE QUANTITY FACTOR TABLE

a. Source ID		Soil	
b. Source Type		Contaminated Soil	
c. Secondary Source Type		N.A.	
d. Source Volume (yd3)	Source Area (ft2)	0.00	200000.00
e. Source Volume/Area Value		5.88E+00	
f. Source Hazardous Constituent Quantity (HCQ) Value (sum of 1b)		0.00E+00	
g. Data Complete?		NO	
h. Source Hazardous Wastestream Quantity (WSQ) Value (sum of 1f)		0.00E+00	
i. Data Complete?		NO	
k. Source Hazardous Waste Quantity (HWQ) Value (2e, 2f, or 2h)		5.88E+00	

Source Hazardous Substances	Depth (feet)	Liquid	Concent.	Units
Arsenic	< 2	NO	2.4E+02	ppm
Barium	< 2	NO	8.2E+02	ppm
Cadmium	< 2	NO	7.1E+01	ppm
Copper	< 2	NO	4.1E+02	ppm
Lead	< 2	NO	3.9E+04	ppm
Manganese	< 2	NO	1.2E+05	ppm
Mercury	< 2	NO	1.3E+00	ppm
PCBs	< 2	NO	3.9E+03	ppm
Pyrene	< 2	NO	1.2E+03	ppm
Zinc	< 2	NO	4.4E+04	ppm

1. WASTESTREAM QUANTITY SUMMARY TABLE, SOURCE: Sediment

a. Wastestream ID	
b. Hazardous Constituent Quantity (C) (lbs.)	0.00
c. Data Complete?	NO
d. Hazardous Wastestream Quantity (W) (lbs.)	0.00
e. Data Complete?	NO
f. Wastestream Quantity Value (W/5,000)	0.00E+00

2. SOURCE HAZARDOUS WASTE QUANTITY FACTOR TABLE

a. Source ID		Sediment	
b. Source Type		Surface Impoundment	
c. Secondary Source Type		N.A.	
d. Source Volume (yd3)	Source Area (ft2)	0.00	200000.00
e. Source Volume/Area Value		1.54E+04	
f. Source Hazardous Constituent Quantity (HCQ) Value (sum of 1b)		0.00E+00	
g. Data Complete?		NO	
h. Source Hazardous Wastestream Quantity (WSQ) Value (sum of 1f)		0.00E+00	
i. Data Complete?		NO	
k. Source Hazardous Waste Quantity (HWQ) Value (2e, 2f, or 2h)		1.54E+04	

Source Hazardous Substances	Depth (feet)	Liquid	Concent.	Units
Arsenic	< 2	NO	3.8E+01	ppm
Barium	< 2	NO	8.7E+02	ppm
Benzo(j,k)fluorene	< 2	NO	2.3E+00	ppm
Benzofluoranthene, 3,4-	< 2	NO	1.6E+00	ppm
Beryllium	< 2	NO	2.3E+00	ppm
Cadmium	< 2	NO	1.0E+01	ppm
Chromium	< 2	NO	5.7E+01	ppm
Cobalt	< 2	NO	1.8E+01	ppm
Copper	< 2	NO	3.8E+02	ppm
Iron	< 2	NO	4.6E+04	ppm
Lead	< 2	NO	3.6E+02	ppm
Manganese	< 2	NO	2.9E+04	ppm
Mercury	< 2	NO	2.9E-01	ppm
Nickel	< 2	NO	9.1E+01	ppm
Phenanthrene	< 2	NO	1.4E+00	ppm
Pyrene	< 2	NO	2.3E+00	ppm
Zinc	< 2	NO	2.8E+03	ppm

3. SITE HAZARDOUS WASTE QUANTITY SUMMARY

No.	Source ID	Migration Pathways	Vol. or Area Value (2e)	Constituent or Wastestream Value (2f,2h)	Hazardous Waste Qty. Value (2k)
1	Soil	GW-SW-SE-A	5.88E+00	0.00E+00	5.88E+00
2	Sediment	GW-SW-SE	1.54E+04	0.00E+00	1.54E+04

4. PATHWAY HAZARDOUS WASTE QUANTITY AND WASTE CHARACTERISTICS SUMMARY TABLE

Migration Pathway	Contaminant Values		HWQVs*	WCVs**
Ground Water	Toxicity/Mobility	1.00E+04	10000	100
SW: Overland Flow, DW	Tox./Persistence	1.00E+04	10000	100
SW: Overland Flow, HFC	Tox./Persis./Bioacc.	5.00E+08	10000	1000
SW: Overland Flow, Env	Etox./Persis./Bioacc.	5.00E+08	10000	1000
SW: GW to SW, DW	Tox./Persistence	1.00E+04	10000	100
SW: GW to SW, HFC	Tox./Persis./Bioacc.	5.00E+08	10000	1000
SW: GW to SW, Env	Etox./Persis./Bioacc.	5.00E+08	10000	1000
Soil Exposure:Resident	Toxicity	1.00E+04	10	18
Soil Exposure: Nearby	Toxicity	1.00E+04	10	18
Air	Toxicity/Mobility	2.00E+02	100	10

* Hazardous Waste Quantity Factor Values
** Waste Characteristics Factor Category Values

Note: SW = Surface Water
GW = Ground Water
DW = Drinking Water Threat
HFC = Human Food Chain Threat
Env = Environmental Threat

GROUND WATER MIGRATION PATHWAY SCORESHEET
Carus Chemical Company - 06/29/92

GROUND WATER MIGRATION PATHWAY Factor Categories & Factors	Maximum Value	Value Assigned
Likelihood of Release to an Aquifer Aquifer: St. Peter		
1. Observed Release	550	0
2. Potential to Release		
2a. Containment	10	10
2b. Net Precipitation	10	3
2c. Depth to Aquifer	5	5
2d. Travel Time	35	35
2e. Potential to Release [lines 2a(2b+2c+2d)]	500	430
3. Likelihood of Release	550	550
Waste Characteristics		
4. Toxicity/Mobility	*	1.00E+04
5. Hazardous Waste Quantity	*	10000
6. Waste Characteristics	100	100
Targets		
7. Nearest Well	50	3.00E+00
8. Population		
8a. Level I Concentrations	**	0.00E+00
8b. Level II Concentrations	**	0.00E+00
8c. Potential Contamination	**	2.54E+02
8d. Population (lines 8a+8b+8c)	**	2.54E+02
9. Resources	5	0.00E+00
10. Wellhead Protection Area	20	0.00E+00
11. Targets (lines 7+8d+9+10)	**	2.57E+02
12. Targets (including overlaying aquifers)	**	4.38E+02
13. Aquifer Score	100	100.00
GROUND WATER MIGRATION PATHWAY SCORE (Sgw)	100	100.00

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET
Carus Chemical Company - 06/29/92

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT Factor Categories & Factors DRINKING WATER THREAT	Maximum Value	Value Assigned
Likelihood of Release		
1. Observed Release	550	550
2. Potential to Release by Overland Flow		
2a. Containment	10	10
2b. Runoff	25	1
2c. Distance to Surface Water	25	25
2d. Potential to Release by Overland Flow [lines 2a(2b+2c)]	500	260
3. Potential to Release by Flood		
3a. Containment (Flood)	10	0
3b. Flood Frequency	50	0
3c. Potential to Release by Flood (lines 3a x 3b)	500	0
4. Potential to Release (lines 2d+3c)	500	260
5. Likelihood of Release	550	550
Waste Characteristics		
6. Toxicity/Persistence	*	1.00E+04
7. Hazardous Waste Quantity	*	10000
8. Waste Characteristics	100	100
Targets		
9. Nearest Intake	50	0.00E+00
10. Population		
10a. Level I Concentrations	**	0.00E+00
10b. Level II Concentrations	**	0.00E+00
10c. Potential Contamination	**	0.00E+00
10d. Population (lines 10a+10b+10c)	**	0.00E+00
11. Resources	5	5.00E+00
12. Targets (lines 9+10d+11)	**	5.00E+00
13. DRINKING WATER THREAT SCORE	100	3.33

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET
Carus Chemical Company - 06/29/92

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT Factor Categories & Factors HUMAN FOOD CHAIN THREAT	Maximum Value	Value Assigned
Likelihood of Release		
14. Likelihood of Release (same as line 5)	550	550
Waste Characteristics		
15. Toxicity/Persistence/Bioaccumulation	*	5.00E+08
16. Hazardous Waste Quantity	*	10000
17. Waste Characteristics	1000	1000
Targets		
18. Food Chain Individual	50	4.50E+01
19. Population		
19a. Level I Concentrations	**	0.00E+00
19b. Level II Concentrations	**	3.00E-02
19c. Pot. Human Food Chain Contamination	**	3.00E-06
19d. Population (lines 19a+19b+19c)	**	3.00E-02
20. Targets (lines 18+19d)	**	4.50E+01
21. HUMAN FOOD CHAIN THREAT SCORE	100	100.00

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

Carus Chemical Company - 06/29/92

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT Factor Categories & Factors ENVIRONMENTAL THREAT	Maximum Value	Value Assigned
Likelihood of Release		
22. Likelihood of Release (same as line 5)	550	550
Waste Characteristics		
23. Ecosystem Toxicity/Persistence/Bioacc.	*	5.00E+08
24. Hazardous Waste Quantity	*	10000
25. Waste Characteristics	1000	1000
Targets		
26. Sensitive Environments		
26a. Level I Concentrations	**	0.00E+00
26b. Level II Concentrations	**	3.50E+02
26c. Potential Contamination	**	2.50E-04
26d. Sensitive Environments (lines 26a+26b+26c)	**	3.50E+02
27. Targets (line 26d)	**	3.50E+02
28. ENVIRONMENTAL THREAT SCORE	60	60.00
29. WATERSHED SCORE	100	100.00
30. SW: OVERLAND/FLOOD COMPONENT SCORE (Sof)	100	100.00

* Maximum value applies to waste characteristics category.

** Maximum value not applicable.

GROUND WATER TO SURFACE WATER MIGRATION COMPONENT SCORESHEET
Carus Chemical Company - 06/29/92

GROUND WATER TO SURFACE WATER MIGRATION COMPONENT Factor Categories & Factors DRINKING WATER THREAT	Maximum Value	Value Assigned
Likelihood of Release to Aquifer Aquifer: Sand and gravel		
1. Observed Release	550	550
2. Potential to Release		
2a. Containment	10	10
2b. Net Precipitation	10	3
2c. Depth to Aquifer	5	5
2d. Travel Time	35	35
2e. Potential to Release [lines 2a(2b+2c+2d)]	500	430
3. Likelihood of Release	550	550
Waste Characteristics		
4. Toxicity/Mobility/Persistence	*	1.00E+04
5. Hazardous Waste Quantity	*	10000
6. Waste Characteristics	100	100
Targets		
7. Nearest Intake	50	0.00E+00
8. Population		
8a. Level I Concentrations	**	0.00E+00
8b. Level II Concentrations	**	0.00E+00
8c. Potential Contamination	**	0.00E+00
8d. Population (lines 8a+8b+8c)	**	0.00E+00
9. Resources	5	5.00E+00
10. Targets (lines 7+8d+9)	**	5.00E+00
11. DRINKING WATER THREAT SCORE	100	3.33

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.

GROUND WATER TO SURFACE WATER MIGRATION COMPONENT SCORESHEET
Carus Chemical Company - 06/29/92

GROUND WATER TO SURFACE WATER MIGRATION COMPONENT Factor Categories & Factors HUMAN FOOD CHAIN THREAT	Maximum Value	Value Assigned
Likelihood of Release		
12. Likelihood of Release (same as line 3)	550	550
Waste Characteristics		
13. Toxicity/Mobility/Persistence/Bioacc.	*	5.00E+08
14. Hazardous Waste Quantity	*	10000
15. Waste Characteristics	1000	1000
Targets		
16. Food Chain Individual	50	4.50E+01
17. Population		
17a. Level I Concentrations	**	0.00E+00
17b. Level II Concentrations	**	3.00E-02
17c. Pot. Human Food Chain Contamination	**	0.00E+00
17d. Population (lines 17a+17b+17c)	**	3.00E-02
18. Targets (lines 16+17d)	**	4.50E+01
19. HUMAN FOOD CHAIN THREAT SCORE	100	100.00

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.

GROUND WATER TO SURFACE WATER MIGRATION COMPONENT SCORESHEET
Carus Chemical Company - 06/29/92

GROUND WATER TO SURFACE WATER MIGRATION COMPONENT Factor Categories & Factors ENVIRONMENTAL THREAT	Maximum Value	Value Assigned
Likelihood of Release		
20. Likelihood of Release (same as line 3)	550	550
Waste Characteristics		
21. Ecosystem Tox./Mobility/Persist./Bioacc.	*	5.00E+08
22. Hazardous Waste Quantity	*	10000
23. Waste Characteristics	1000	1000
Targets		
24. Sensitive Environments		
24a. Level I Concentrations	**	0.00E+00
24b. Level II Concentrations	**	3.50E+02
24c. Potential Contamination	**	0.00E+00
24d. Sensitive Environments (lines 24a+24b+24c)	**	3.50E+02
25. Targets (line 24d)	**	3.50E+02
26. ENVIRONMENTAL THREAT SCORE	60	60.00
27. WATERSHED SCORE	100	100.00
28. SW: GW to SW COMPONENT SCORE (Sgs)	100	100.00

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.

SOIL EXPOSURE PATHWAY SCORESHEET
Carus Chemical Company - 06/29/92

SOIL EXPOSURE PATHWAY Factor Categories & Factors RESIDENT POPULATION THREAT	Maximum Value	Value Assigned
Likelihood of Exposure		
1. Likelihood of Exposure	550	550
Waste Characteristics		
2. Toxicity	*	1.00E+04
3. Hazardous Waste Quantity	*	10
4. Waste Characteristics	100	18
Targets		
5. Resident Individual	50	5.00E+01
6. Resident Population		
6a. Level I Concentrations	**	7.80E+02
6b. Level II Concentrations	**	0.00E+00
6c. Resident Population (lines 6a+6b)	**	7.80E+02
7. Workers	15	1.00E+01
8. Resources	5	0.00E+00
9. Terrestrial Sensitive Environments	***	0.00E+00
10. Targets (lines 5+6c+7+8+9)	**	8.40E+02
11. RESIDENT POPULATION THREAT SCORE	**	8.32E+06

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.
*** No specific maximum value applies, see HRS for details.

SOIL EXPOSURE PATHWAY SCORESHEET
Carus Chemical Company - 06/29/92

SOIL EXPOSURE PATHWAY Factor Categories & Factors NEARBY POPULATION THREAT	Maximum Value	Value Assigned
Likelihood of Exposure		
12. Attractiveness/Accessibility	100	2.50E+01
13. Area of Contamination	100	4.00E+01
14. Likelihood of Exposure	500	2.50E+01
Waste Characteristics		
15. Toxicity	*	1.00E+04
16. Hazardous Waste Quantity	*	10
17. Waste Characteristics	100	18
Targets		
18. Nearby Individual	1	0.00E+00
19. Population Within 1 Mile	**	9.00E+00
20. Targets (lines 18+19)	**	9.00E+00
21. NEARBY POPULATION THREAT SCORE	**	4.05E+03
SOIL EXPOSURE PATHWAY SCORE (Ss)	100	100.00

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.

AIR PATHWAY SCORESHEET

Carus Chemical Company - 06/29/92

AIR MIGRATION PATHWAY Factor Categories & Factors	Maximum Value	Value Assigned
Likelihood of Release		
1. Observed Release	550	550
2. Potential to Release		
2a. Gas Potential to Release	500	0
2b. Particulate Potential to Release	500	280
2c. Potential to Release	500	280
3. Likelihood of Release	550	550
Waste Characteristics		
4. Toxicity/Mobility	*	2.00E+02
5. Hazardous Waste Quantity	*	100
6. Waste Characteristics	100	10
Targets		
7. Nearest Individual	50	4.50E+01
8. Population		
8a. Level I Concentrations	**	0.00E+00
8b. Level II Concentrations	**	1.05E+02
8c. Potential Contamination	**	6.30E+01
8d. Population (lines 8a+8b+8c)	**	1.68E+02
9. Resources	5	0.00E+00
10. Sensitive Environments		
10a. Actual Contamination	***	0.00E+00
10b. Potential Contamination	***	0.00E+00
10c. Sens. Environments(lines 10a+10b)	***	0.00E+00
11. Targets (lines 7+8d+9+10c)	**	2.13E+02
AIR MIGRATION PATHWAY SCORE (Sa)	100	1.42E+01

* Maximum value applies to waste characteristics category.

** Maximum value not applicable.

*** No specific maximum value applies, see HRS for details.